CONTRACT FOR
INFORMATION TECHNOLOGY SOLUTION

THIS CONTRACT FOR INFORMATION TECHNOLOGY SOLUTION ("Contract") is made and entered into by and between the County of San Luis Obispo ("County"), a public entity in the State of California, and Aviat U.S., Inc., a Delaware corporation ("Vendor" or "Contractor").

WITNESSETH:

**WHEREAS**, The County requires a microwave radio backhaul system ("System") to provide transport services for numerous mission critical public safety voice and data systems including all services, hardware, package software, system configuration and integration, training, testing, and documentation requirements as set forth in Exhibit C, Statement of Work; and

**WHEREAS,** Contractor has specially trained personnel possessing the skills, experience, education, and competency required to perform the services described in this Contract; and

**WHEREAS**, Contractor has different skills and products than can be produced by County civil service commission employees; and

**WHEREAS**, in accordance with Government Code 31000 special administrative services may be contracted;

**NOW THEREFORE**, in consideration of the covenants, conditions, agreements, and stipulations set forth in this Contract, the parties agree that Contractor shall perform the services described herein for the compensation set forth herein, subject to all the terms and conditions contained in this Contract.

1. General Conditions – The parties agree to the general conditions described in Exhibit A "General Conditions."

2. Special Conditions – The parties agree to the special conditions described in Exhibit B "Special Conditions."

3. Professional Services – Contractor agrees to perform professional services and the parties agree to the terms and conditions related to said professional services in Exhibit C "Statement of Work."

4. Pricing and Payment – The parties agree to the payment plan identified in Exhibit D.

5. Deliverables – Contractor agrees to supply the items denoted in Exhibit E "Equipment List".

6. Notices. Any notice required to be given pursuant to the terms and provisions hereof shall be in writing and shall be sent by certified or registered mail to the County at:

To the County:

Paul Porter, Acting IT Manager
San Luis Obispo County
General Services Agency – Information Technology Department
County Government Center, Room 400
San Luis Obispo, CA 93408

To the Contractor:

Contracts Manager, Legal Department
Aviat U.S., Inc.
5200 Great America Parkway
Santa Clara, CA 95054

IN WITNESS WHEREOF, County and Contractor have executed this contract on the day and year as stated below.

**CONTRACTOR:**

By: Kevin Hollwell _____ January 24, 2014
NAME, TITLE KEVIN HOLLWELL, VP FINANCE Date
Aviat U.S., Inc.

**COUNTY:**

COUNTY OF SAN LUIS OBISPO

A Public Entity in the State of California

COUNTY COUNSEL:
Approved as to form and legal effect.

Rita L. Neal
County Counsel

By: Shannon Mahon _____ 1/31/14
Deputy County Counsel Date

**COUNTY OF SAN LUIS OBISPO**
A Public Entity in the State of California

By: _____ _____
Chair, Board of Supervisors Date

ATTEST:

By: _____ _____
County Clerk and Ex-Officio Clerk of the Board of Supervisors Date

EXHIBIT A
GENERAL CONDITIONS

1. **Independent Contractor.** Contractor, its officers, agents, employees, contractors and subcontractors, shall be deemed to be an independent contractor of County at all times during this Contract. Nothing in this Contract shall be construed as creating a civil service employer-employee relationship, partnership or a joint venture relationship. This Contract does not authorize or permit the County to exercise discretion or control over the professional manner in which Contractor provides goods and/or services.

2. **No Eligibility for Fringe Benefits.** Contractor understands and agrees that Contractor and its personnel are not, and will not be, eligible for membership in or any benefits from any County group plan for hospital, surgical, vision, dental, or medical insurance, or for membership in any County retirement program, or for paid vacation, paid sick leave, or other leave, with or without pay, or for any other benefit which accrues to a County employee. The only performance and rights due are those specifically stated in this Contract or existing as a matter of law.

3. **Warranty of Contractor**. Contractor warrants that Contractor has obtained and shall keep in full force and effect during the term of this Contract, all permits, registrations and licenses required by law or by this Contract to accomplish the work specified herein. Contractor warrants that it, and each of the personnel employed or otherwise retained by Contractor, will at all times, to the extent required by law, be properly certified and licensed under the local, state and federal laws and regulations applicable to the provision of the services, if any, provided under this Contract.

4. **Exhibits**. All Exhibits attached to this Contract are incorporated herein by reference and made a part hereof.

5. **Compliance with all Laws**. Contractor warrants that Contractor will observe, comply with, and cause all of its agents and personnel to observe and comply with all federal, state, and local laws, rules, regulations and orders applicable to Contractor in Contractor's performance under this Contract. If any conflict arises between provisions of the scope of work or specifications in this Contract and any law, then the Contractor shall immediately notify the County in writing.

6. **Power and Authority of Contractor**. If Contractor is a corporation or a limited liability company, Contractor represents and warrants that it is either a duly organized, validly existing California corporation or limited liability company in good standing under the laws of the State of California or a duly organized, validly existing foreign corporation or limited liability company in good standing in the state of incorporation or organization and authorized to transact business in the State of California and have an agent for service of process in California.

7. **Assignment, Delegation or Subcontracting of Contract.** Contractor shall not assign any of Contractor's rights, delegate any of Contractor's duties, or subcontract any portion of Contractor's obligations under this Contract without the prior written consent of the County. No assignment, delegation or subcontracting

will release Contractor from any of its obligations or alter any of its obligations to be performed under this Contract, unless otherwise agreed in writing by County. Any attempted assignment, delegation or subcontracting in violation of this provision is voidable at the option of the County. If subcontracting is approved by the County, Contractor shall remain primarily liable for all of its obligations under the Contract. Contractor is responsible for payment to subcontractors and must monitor, evaluate, and account for the subcontractor(s) services and operations.

8. **Standard of Performance**. The parties acknowledge that the County, in selecting Contractor to provide the goods and/or services hereunder, is relying upon the Contractor's reputation for excellence in the delivery of such goods and/or the performance of the services required hereunder.

9. **Key Project Personnel**. Contractor shall make every effort to ensure that key personnel, if any, identified in this Contract are available to support the administration of this Contract and are not diverted from the Project without prior written notice to the County. Key personnel are those individuals who are determined to be central to the management of the Project and implementation of the scope of work under this Contract. Contractor agrees to identify in writing the members of the project team for Contractor at the time of the signing of this Contract. The County shall have the right to approve all members of the project team, if any, and to request removal and replacement with cause of any member for a lawful reason. The County reserves the right to require a change in Contractor's personnel assigned to this Project if the assigned representatives are not, in the County's opinion, meeting its needs adequately and/or timely.

10. **Waiver**. No delay or failure on the part of any party to this Contract in exercising any right, power, or privilege under this Contract shall impair any such right, power, or privilege or be construed as a waiver of any default or any acquiescence therein. No single or partial exercise of any such right, power or privilege shall preclude the further exercise of such right power or privilege or the exercise of any other right, power or privilege. No waiver shall be valid unless made in writing and signed by the party against whom enforcement of such waiver is sought and then only to the extent expressly specified therein.

11. **Nondiscrimination**. Contractor agrees that it will abide by all applicable federal, state, and local laws, rules and regulations concerning nondiscrimination and equal opportunity in contracting. Such laws include, but are not limited to, the following: Title VII of the Civil Rights Act of 1964 as amended; the Americans with Disabilities Act of 1990; the Rehabilitation Act of 1973; California Fair Employment and Housing Act; and California Labor Code sections 1101 and 1102. Contractor shall not discriminate against any employee, subcontractor, or applicant for employment because of race, age, color, ancestry, religion, sex/gender, sexual orientation, mental disability, physical disability, national origin, political beliefs, organizational affiliations, or marital status in the recruitment, selection for training, hiring, employment, utilization, promotion, payoff, rates of pay or other forms of compensation. Contractor shall not discriminate in providing the goods or services under this Contract because of age, race, color, national origin, ancestry, religion, sex/gender, sexual orientation, mental disability, physical disability, medical condition, political beliefs, organizational affiliations, marital status or other

protected class. Contractor's violation of this provision shall be deemed a material default by Contractor giving the County a right to terminate this Contract for cause.

12. **Indemnification.** Contractor shall defend, indemnify and hold harmless the County, its officers and employees from all claims, demands, liability, loss, injury, damages, costs, expenses, judgments, attorney and expert witness fees, or other losses that may be asserted by any person or entity, including Contractor, and that arise out of or are made in connection with the negligent or wrongful acts or omissions relating to Contractor's performance of any obligation or duty provided for or relating (directly or indirectly) to this Contract, whether or not such claim is caused in part by the active or passive negligence of County, excepting only loss, injury or damage caused by the sole negligence or willful misconduct of personnel employed by the County.

13. **Intellectual Property Indemnification.** Contractor shall, at its own expense, indemnify, defend, settle, and hold harmless the County and its agencies against any claim brought against the County, based on Contractor's alleged infringement of any patent, trademark, copyright or other proprietary rights of a third party, including trade secret rights under the laws of the United States, unless and except to the extent that such infringement is caused by Contractor's compliance with County's specifications or instructions, or Contractor's use of trademarks or data supplied by County. If any third party makes a claim covered by this Section against the County with respect to which the County intends to seek indemnification under this Section, the County shall give reasonably prompt notice of such claim to the Contractor, including a brief description of the amount and basis therefore, if known. Upon giving such notice, the Contractor shall be obligated to defend the County against such claim, and shall be entitled to assume control of the defense of the claim with counsel chosen by the Contractor, and satisfactory to the County. The County shall cooperate with and assist the Contractor in its defense against such claim in all reasonable respects, at no cost to the County. The Contractor shall keep the County fully apprised at all times as to the status of the defense. Notwithstanding the foregoing, the County shall have the right to employ its own separate counsel in any such action, but the fees and expenses of such counsel shall be at the expense of the County. Neither the Contractor nor the County shall be liable for any settlement of action or claim effected without its consent. Following indemnification as provided in this Section, the Contractor shall be subrogated to all rights of the County with respect to the matters for which indemnification has been made.

14. **Late Payment of Charges or Fees.** The Contractor acknowledges and agrees that the County will not pay late payment charges associated with this Contract.

15. **Payment.** County's payment to Contractor shall be made according to the compensation plan on Exhibit D. Payment shall be net thirty (30) Days from the date of delivery, or installation (If Contractor's installation services are specified in the applicable statement of work), and acceptance of the goods and services ordered, or net thirty (30) days from an undisputed invoice date, whichever is later.

    Sales tax, if any, shall be noted separately on every invoice. Items not subject to sales tax shall be clearly identified on the invoice. Contractor shall be responsible

for payment of all state and federal taxes assessed on the compensation received upon this Contract and such payment shall be identified under the Contractor's federal and state identification numbers(s). The County does not pay Federal Excise Taxes. Contract shall not charge County for delivery, express, parcel post, packing, cartage, insurance, license fees, permits, cost of bonds, or for any other purpose, unless expressly authorized by the County, in writing.

Payment by County, or the receipt by Contractor of such payment, shall not relieve Contractor of its obligations under this Contract. Electronic transfer of funds is an optional method of payment made to the Contractor's bank account with a financial institution. Should Contractor choose electronic transfer of funds as the method of payment, then payment is deemed to have been made when the County initiates the electronic funds transfer. In the event Contractor receives payment for goods and/or services, which payment is later disallowed by the County pursuant to state or federal law or regulation, the Contractor shall promptly refund the disallowed amount to the County upon notification. At County's option, County may offset the amount disallowed from any payment due to Contractor under any agreement with the Contractor. In the event Contractor receives payment for product or services, which payment is later disallowed by the County pursuant to state or federal law or regulation, the Contractor shall promptly refund the disallowed amount to the County upon notification. At County's option, County may offset the amount disallowed from any payment due to Contractor under any agreement with the Contractor.

16. **Disputed Payments.** If, due to either an issue with the charges on an invoice or the Contractor's failure to perform its obligations under this Contract, the County reasonably disputes any charge(s) on an invoice, the County may withhold the disputed amount, provided that the County delivers a written statement to Contractor within thirty (30) days of the due date of the invoice, describing in detail the basis of the dispute and the amount being withheld by the County.

17. **Fiscal Controls.** Contractor shall adhere to the accounting requirements, financial reporting, and internal control standards as described in the Auditor-Controller Contract Accounting and Administration Handbook, (Handbook) which contains the minimum required procedures and controls that must be employed by Contractor's accounting and financial reporting system, and which is incorporated herein by reference. Contractor shall require subcontractors to adhere to the Handbook for any services funded through this contract, unless otherwise agreed upon in writing by County. The Handbook is available at the Auditor-Controller's Office, 1055 Monterey Street Room D220, County Government Center, San Luis Obispo, California, 93408.

18. **Audit Rights.** Pursuant to Government Code section 8546.7, every County contract involving the expenditure of public funds in excess of $10,000 is subject to examination and audit of the California State Auditor. Contractor shall permit the State Auditor to have access to any pertinent books, documents, papers and records for the purpose of said audit. County shall advise Contractor if it becomes aware of such audit at least fourteen (14) days prior to the commencement of the audit. All payments made under this Contract shall be subject to an audit at County's option, and shall be adjusted in accordance with said audit. The

Contractor shall be responsible for receiving, replying to, and complying with any audit exceptions set forth in any County audits. This provision is in addition to any other inspection and access rights set forth in this Contract.

19. **Tax Information Reporting.** Upon request, Contractor shall submit its tax identification number or social security number, whichever is applicable, in the form of a signed W-9 form, to facilitate appropriate fiscal management and reporting.

20. **Availability of Funding.** The County's obligation for payment of any contract beyond the current fiscal year end is contingent on the availability of funding. No legal liability on the part of the County shall arise for payment beyond June 30 of the calendar year unless funds are made available for such performance. If the County notifies Contractor in writing that the funds for this Contract have not been appropriated or provided, this Contract will terminate upon the date specified in the notice. In such an event, the County shall have no further liability to pay any funds to the Contractor or to furnish any other consideration under this Contract, and the Contractor shall not be obligated to perform any provisions of this Contract or to provide good and/or services under this Contract. If partial funds are appropriated or provided, the County shall have the option to either cancel this Contract with no liability to the County or offer a Contract amendment to the Contractor to reflect the reduced amount. County shall provide, in good faith and if reasonably practicable to do so, notice to Contractor at least thirty (30) days in advance of such termination pursuant to this Section.

21. **Insurance.** Contractor, at its sole cost, shall purchase and maintain the insurance policies set forth below on all of its operations under this Contract. All of the insurance companies providing insurance for Contractor/Consultant shall have, and provide evidence of, an A.M. Best and Co. rating of A:VII or above, unless exception is granted by the County's Risk Manager, and be authorized to do business in the State of California. Further, all policies shall be maintained for the full term of this Contract and related warranty period if applicable.
Commercial General Liability. Policy shall include coverage at least as broad as set forth in Insurance Services Office Commercial General Liability Coverage (CG 00 01) with policy limits of not less than two million dollars ($2,000,000.00) combined single limit per occurrence. Policy shall be endorsed with the following specific language or contain equivalent language in the policy:
A. The County, its officers and employees, are named as an additional insured for all liability arising out of the operations by or on behalf of the named insured in the performance of this Contract.
B. The insurance provided herein shall be considered primary coverage to the County with respect to any insurance or self insured retention maintained by the County. Further, the County's insurance shall be considered excess insurance only and shall not be called upon to contribute to this insurance.
C. The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County.

Business Automobile Policy. Policy shall include coverage at least as broad as set forth in the liability section of Insurance Services Office Business Auto Coverage (CA 00 01) with policy limits of no less than $1 million dollars combined single limit for each occurrence. Said insurance shall include coverage for owned, non-

owned, and hired vehicles. Policy shall be endorsed with the following specific language or contain equivalent language in the policy:

a. "The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County."
b. "The County of San Luis Obispo, its officers and employees, is named as an additional insured for all liability arising out of the operations by or on behalf of the named insured in the performance of this Agreement."

Workers' Compensation/Employer's Liability Insurance. Workers' compensation policy shall provide statutory limits as required by State of California. Policy shall be endorsed with the following specific language or contain equivalent language in the policy: "Contractor and its insurer shall waive all rights of subrogation against the County, its officers and employees for workers' compensation losses arising out of this contract. The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County." Employer's liability policy shall provide one million dollars ($1,000,000.00) per accident for bodily injury or disease.

Deductibles and Self-Insurance Retentions. All deductibles and/or self-insured retentions which apply to the insurance policies required herein will be declared in writing and approved by the County prior to commencement of this contract.

Documentation. Prior to commencement of work and annually thereafter for the term of this contract, Contractor will provide to the County properly executed certificates of insurance clearly evidencing the coverage, limits, and endorsements specified in this contract. Further, at the County's request, the Contractor shall provide copies of endorsements and certified copies of the insurance policies within thirty days of request.

Absence of Insurance Coverage. The County may direct Contractor to immediately cease all activities with respect to this Contract if it determines that Contractor fails to carry, in full force and effect, all insurance policies with coverage levels at or above the limits specified in this contract. Any delays or expense caused due to stopping of work and change of insurance shall be considered Contractor's delay and expense

22. **Liens, Claims and Encumbrances.** Contractor represents and warrants that all goods and materials ordered and delivered under this Contract, if any, are free and clear of all liens, claims or encumbrances. Title to the material and supplies purchased shall pass directly from Contractor to County subject to the right of County to reject upon inspection of receipt.

23. **Force Majeure.** Neither the County nor Contractor shall be deemed in default in the performance of the terms of this Contract if either party is prevented from performing the terms of this Contract by causes beyond its control, including without limitation: acts of God; rulings or decisions by municipal, Federal, States or other governmental bodies; any laws or regulations of such municipal, Federal, States or other governmental bodies; or any catastrophe resulting from flood fire, explosion, or other causes beyond the control of the defaulting party. Any party delayed by force majeure shall as soon as reasonably possible give the other party written notice of the delay, including the particulars in reasonable detail of the cause of the inability. The party delayed shall use commercially reasonable efforts to correct the cause of the delay, if correctable, and if the condition that

caused the delay is corrected, the party delayed shall immediately give the other parties written notice thereof and shall resume performance under this Contract.

24. **Signatory Authority.** Any individual executing this Contract on behalf of Contractor represents and warrants that he/she has full power and authority to enter into, deliver, and perform this Contract on behalf of Contractor, and that this Contract is binding upon said Contractor in accordance with its terms.

25. **Nondisclosure**. All reports, information, documents, or any other materials prepared by Contractor under this Contract are the property of the County unless otherwise provided in this Contract. Such reports, information, documents and other materials shall not be disclosed by Contractor without County's prior written consent. Any requests for information shall be forwarded to County along with all copies of the information requested. The County shall be the sole decision maker regarding whether and how to release information according to law.

26. **Conflict of Interest.** Contractor acknowledges that Contractor is aware of and understands the provisions of Sections 1090 et seq. and 87100 et seq. of the Government Code, which relate to conflict of interest of public officers and employees. Contractor certifies that Contractor is unaware of any financial or economic interest of any public officer or employee of the County relating to this Contract. Contractor agrees to comply with applicable requirements of Government Code section 87100 et seq. during the term of this Contract.

27. **Immigration Reform and Control Act.** Contractor acknowledges that Contractor, and all subcontractors hired by Contractor to perform services under this Contract are aware of and understand the Immigration Reform and Control Act ("IRCA") of 1986, Public Law 99-603. Contractor certifies that Contractor is and shall remain in compliance with ICRA and shall ensure that any subcontractors hired by Contractor to perform services under this Contract are in compliance with IRCA.

28. **Third Party Beneficiaries.** It is expressly understood that the enforcement of the terms and conditions and all rights of action related to enforcement shall be strictly reserved to the County and Contractor. Nothing contained in this contract shall give or allow and claim or right of action whatsoever by any other third person.

29. **California Public Records Act**. The County is a public agency subject to the disclosure requirements of the California Public Records Act ("CPRA"). If Contractor's proprietary information is contained in documents or information submitted to County as part of the proposal process, and Contractor claims that such information falls within one or more CPRA exemptions, Contractor must clearly mark such information as "CONFIDENTIAL AND PROPRIETARY" and identify the specific pages and sections containing the information. In the event of a request for documents under the CPRA, the County will make reasonable efforts to provide notice to Contractor prior to such disclosure. If Contractor contends that any documents or portions thereof are exempt from the CPRA and desires to prevent such disclosure, Contractor is required to obtain a protective order, injunctive relief, or other appropriate remedy from a court of law in San Luis Obispo County before the County's deadline for responding to the CPRA request. If Contractor fails to obtain such remedy within the County's deadline to response,

the County may disclose the requested information without obligation to Contractor. If Contractor instructs County to withhold the requested documents, Contractor shall defend, indemnify, and hold the County harmless against any resulting claim, action or litigation, provided that (a) the County promptly notifies Contractor of any claim for which it intends to seek indemnity under this Section, (b) Contractor has the opportunity to assume and control the defense of the claim, and (c) the County agrees to provide reasonable cooperation, if necessary, to Contractor in Contractor's defense of the claim.

If the County receives a CPRA request regarding the goods and/or services provided pursuant to this Contract, and believes that some of the information sought may be exempt from disclosure, the County may notify Contractor of the request. If such notification is made, County will make reasonable attempts to confer with Contractor regarding an appropriate response to said request. If Contractor contends that any documents are Contractor's confidential or proprietary material, exempt from the CPRA and/or not subject to the CPRA, and Contractor wishes to prevent disclosure of said documents, Contractor shall instruct County to withhold said documents and/or seek any judicial remedies available to Contractor including, without limitation, a protective order. If Contractor fails to respond to County in writing prior to the County's deadline for responding to the CPRA request, the County may disclose the requested information under the CPRA without liability to the County. Contractor shall defend, indemnify and hold the County harmless against any claim, action or litigation (including but not limited to all judgments, costs, fees, and reasonable attorney's fees) that may result from full or partial denial of a CPRA request involving Contractor's records.

30. **Non-Exclusive Agreement**. This Contract does not establish an exclusive relationship between the County and the Contractor. The County expressly reserves all its rights, including but not limited to, the following: the right to utilize others to provide products, support and/or service; the right to request proposals from others with or without requesting proposals from the Contractor; and the unrestricted right to bid any such product, support, or service.

31. **Use of County's Name for Commercial Purposes**. Contractor may not use the name of the County or reference for any endorsement from the County in any fashion or for any purpose, without the prior written consent of the County as provided by the General Services Agency Director.

32. **Days.** Unless otherwise provided, "days" means and are to be counted by excluding the first day and including the last day, unless the last day is a Saturday, a Sunday, or a legal holiday, and then it is to be excluded.

33. **Time is of the Essence.** Time is of the essence in the delivery of the goods and services by Contractor under this Contract. In the event that the Contractor fails to deliver goods, services, or support on time, and such failure is solely the fault of Contractor, the Contractor shall be liable for any costs incurred by the County because of Contractor's delay. For instance, County may purchase or obtain the goods, services, or support elsewhere and the Contractor shall be liable for the difference between the price in the Contract and the cost to the County. The

Contractor shall promptly reimburse the County for the full amount of its liability, or, at County's option, the County may offset such liability from any payment due to the Contractor under the Contract with the County. The County's rights and remedies provided herein shall not be exclusive and are in addition to any other rights and remedies provided by law. The acceptance by County of late or partial performance with or without objection or reservation shall not waive the right to claim damage for such breach and shall not constitute a waiver of the rights or requirements for the complete and timely performance of any obligation remaining to be performed by the Contractor, or of any other claim, right or remedy of the County.

34. **Termination for Cause.** If the County determines that there has been a material breach of this Contract by Contractor that (i) poses a threat to the public's health and safety, or (ii) failure to comply with federal, state, or local laws, rules, and/or regulations, then the County may immediately terminate the Contract without Contractor's opportunity to cure. In addition, County shall have the right to terminate this Contract for cause upon written notice to the Contractor if Contractor (i) fails to provide County with a cure plan, within ten (10) Days of the date which the County's notice was sent, which reasonably details the steps Contractor will take to correct the breach, and (ii) fails within thirty (30) Days of the County's notice to correct the breach. County shall specify in its notice the date of the notice, the reason the notice was sent and the effective date of termination. For purposes of this Contract, for cause shall include, but not be limited to, the following:

    a. Failure to perform under this Contract to the satisfaction of the County; or

    b. Failure to fulfill in a timely and professional manner Contractor's obligations under this Contract; or

    c. Any requisite licenses or certifications held by Contractor are terminated, suspended, reduced, or restricted.

    All obligations to provide good and/or services shall automatically terminate on the effective date of termination. Contractor shall be paid for all work satisfactorily completed (and accepted, if applicable) prior to the effective date of termination.

35. **Termination for Convenience.** Either party may terminate this Contract at any time by giving the other party at least ninety (90) day's written notice of termination for convenience ("Notice of Termination for Convenience"). Termination for convenience shall be effective at 11:59 p.m., Pacific Time, on the intended date for termination (the "Termination Date"). The party shall deliver to the other party a notice specifying the date upon which such termination will become effective, which shall be at least ninety (90) days after the date of the notice. The Notice of Termination for Convenience shall specify whether Contractor is authorized and required to continue to deliver services up until the Termination Date. Termination for convenience shall have no effect upon the rights and obligations of the parties arising out of any services which were provided prior to the effective date of such termination. Contractor shall be paid for all work completed (and accepted, if applicable) prior to the effective date of termination. After receiving a Notice of

Termination for Convenience, Contractor shall, unless directed by County, place no further subcontracts for services or materials, and terminate all subcontracts to the extent they relate to the work terminated. In addition, County may terminate any SOW hereunder fourteen (14) days after Contractor's receipt of County's written notice and County shall pay Contractor for the value of all work completed (and accepted, if applicable) through the date of termination.

36. **Termination for Bankruptcy.** If Contractor is adjudged to be bankrupt or should have a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of Contractor's insolvency, the County may terminate this Contract immediately without penalty. For the purposes of this section, bankruptcy shall mean the filing of a voluntary or involuntary petition for bankruptcy or similar relief from creditors; insolvency; the appointment of a trustee or receiver, or any similar occurrence reasonably indicating an imminent inability to perform substantially all of the Contractor's duties under this Contract.

37. **Bankruptcy/Insolvency License Vesting Rights**. All licenses granted to County under or pursuant to this Contract, if any, are and shall be deemed to be, for purposes of any formal insolvency proceeding and pursuant to Section 365(n) of the U.S. Bankruptcy Code, valid and presently existing licenses of rights to intellectual property as defined under Section 101 of the U.S. Bankruptcy Code, as amended. The parties agree that the County, as a licensee of such rights under this Contract, shall retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code, as amended, including rights to obtain source code.

38. **Power to Terminate.** This Contract may be terminated by Janette Pell, General Services Agency Director without the need for action, approval, or ratification by the County's Board of Supervisors.

39. **Delegation of Authority.** The Board of Supervisors delegates to the County of San Luis Obispo General Services Agency Director the authority to amend the Contract to extend the term of this Contract, add or delete products and/or services, and/or increase compensation to Contractor up to twenty-five thousand ($25,000) or twenty-five percent (25%) of the Contract total, whichever is greater. The Board of Supervisors delegates the authority to the County of San Luis Obispo General Services Agency Director to amend this Contract to extend its term up to one additional year. Any amendment made pursuant to a delegation of authority will only be effective if, prior to the delivery of the goods and/or commencement of services or extension of the Contract, the amendment is memorialized in writing, is approved by County Counsel, and is signed by the Contractor and General Services Agency Director.

40. **Disentanglement.** Contractor shall cooperate with County and County's other contractors to ensure a smooth and timely transition at the time of termination of this Contract, regardless of the nature or timing of the termination. Contractor shall cooperate with County and otherwise take all steps reasonably required to assist County in effecting a complete and timely transition to ensure that there is no interruption of any services required under this Contract and there is no adverse impact on the supply of goods, material and/or services. Contractor shall provide County with all information regarding the goods and/or services or is

otherwise needed for the disentanglement. Contractor shall deliver to County or its designee, at County's request, all documentation and data related to County, held by Contractor, including extracting data in a format that allows the data to be imported into any new program specified by the County. Such extraction shall be paid by Contractor if the Contract is terminated due to Contractor's breach.

41. **Governing Law, Jurisdiction and Venue.** This Contract shall be construed and interpreted according to the laws of the State of California, excluding its conflict of law principles. Proper venue for legal actions shall be exclusively vested in state court in the County of San Luis Obispo. The parties agree that subject matter and personal jurisdiction are proper in state court in the County of San Luis Obispo and waive all venue and/or jurisdiction objections.

42. **California Title 24, Energy Standards**. Contractor recognizes that Title 24 of the California Code of Regulations contains mandatory standards and policies relating to energy efficiency in the state energy conservation plan, and recognizes it may have applicability to Contractor.

43. **Compliance re: Environmental Laws.** To the extent this Contract is governed thereby, Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to Section 306 of the Clean Air Act, Section 508 of the Clean Water Act, (33 U.S.C. 1368), Executive Order 11738 and Environmental Protection Agency (EPA) regulations, (40 C.F.R. Part 15) which prohibit the awarding of nonexempt federal contracts, grants or loans to facilities included on EPA's list of violating facilities. Contractor shall report all violations to the regional office of the EPA.

44. **Cost Disclosure.** Pursuant to Government Code section 7550, any document or written report prepared for or under the direction of a local agency, that is prepared in whole or in part by nonemployees of the local agency, shall contain the numbers and dollar amounts of all contracts and subcontracts relating to the preparation of the document or written report; if the total cost for the work performed by nonemployees of the agency exceeds five thousand dollars ($5,000). The contract and subcontract numbers and dollar amounts shall be contained in a separate section of the document or written report.

45. **Headings.** The headings contained in this Contract are for reference purposes only and shall not affect in any way the meaning or interpretation of this Contract.

46. **Severability**. Contractor agrees that if any provision of this Contract is found to be invalid, illegal or unenforceable, such term or provision shall be deemed stricken and the remainder of the Contract shall remain in full force and effect. Upon determination that any term or provision is invalid, illegal or unenforceable, the parties shall negotiate in good faith to modify this Contract so as to affect the original intent of the parties as closely as possible.

47. **Entire Agreement and Modifications**. This Contract supersedes all previous contracts or memorandums of understandings between the parties to this Contract on the same subject matter and constitutes the entire understanding of the parties. Contractor shall be entitled to no other benefits than those specified herein. No

changes, amendments or alterations shall be effective unless in writing and signed by both parties. Contractor specifically acknowledges that in entering into and executing this Contract, Contractor relies solely upon the provisions contained in this Contract and no others.

EXHIBIT B

SPECIAL CONDITIONS

1. **Defined Terms.**
   a. Acceptance shall have meaning as described in Article 2 and Article 3 of this Exhibit.
   b. Conforms/Conforming shall mean the compliance of a particular Deliverable provided by Contractor with the applicable portion of the Specifications.
   c. Contract Price shall have the meaning set forth in Exhibit A, Article 15 and Exhibit D.
   d. Contractor Personnel shall mean employees of Contractor or of any Subcontractor.
   e. Contractor's Key Project Personnel shall mean those persons affiliated with Contractor and designated by County in Exhibit A, Article 9.
   f. County Personnel shall mean employees of County and any third party independent contractors engaged by County to perform any of County's obligations hereunder.
   g. Deficiencies: The term "Deficiency" or "Deficiencies" shall mean: (i) any response time or processing time of the System, when implemented on the System Hardware; (ii) any failure of the System (or any component) to function or perform in accordance with commercially acceptable standards based upon a commercially reasonable reading of the Specifications; (iii) any impairment in the operation or performance of any of County's other hardware of software beyond a level that would be commercially reasonable in view of the particular operations being performed by the System (or any component thereof), provided that the System is configured as set forth in the Specifications; or (iv) any deviation from the Specifications.
   h. Deliverable: The term "Deliverable" or "Deliverables" shall mean an item and/or service to be provided by Contractor under this Contract that is identified as a number Deliverable or sub-Deliverable in Exhibit C (Statement of Work).
   i. Detailed Design Review occurs when the parties have agreed upon the finalized Technical System Design Document to be incorporated herein, and the final system design has been completed.
   j. Documentation shall mean the documentation developed in the course of services provided, including, without limitation, the technical drawings, diagrams, configuration files, operations and maintenance manuals, training documentation, and other documentation which shall be sufficient to permit a reasonably skilled individual to operation and maintain the System.
   k. Effective Date shall mean the date of Agreement signing unless otherwise specified in the Agreement.
   l. Error shall mean any failure of any particular Deliverable or of the System as a whole to Conform.
   m. Final Project Acceptance shall mean that Contractor has completed all required work and provided all Deliverables and County has received and accepted all Deliverables.
   n. Factory Testing shall mean the testing conducted at the factories on individual system components (Hardware or Software) prior to shipment to the Contractor's staging facility.

o. Hardware shall mean the System equipment provided pursuant to this Agreement attached hereto as Exhibit E.

p. Implementation Plan shall mean the then-current document delivered by Contractor and Accepted by County pursuant to Exhibit C hereunder to include Tasks/Deliverables and Milestones for the Project.

q. Installed/Installation shall mean completion of installation of System components represented by Contractor to be installed and operational.

r. Material Deficiencies shall mean the lack of functionality necessary for the System to perform the essential business duties of County of San Luis Obispo as defined by Exhibit C.

s. Milestone shall mean the date by which a Deliverable is required to be delivered hereunder or by which a specific Deliverable shall have passed the applicable test for Acceptance as set forth in this Agreement or the Implementation Plan.

t. Project shall mean the development work to be performed and all other tasks to be performed as necessary or appropriate to deliver, install and make operational the System, all as is described in this Agreement, the Specifications, the Contractor's Technical System Design Document, and the Implementation Plan.

u. Proposal shall mean the proposal submitted by Contractor on November 4, 2013.

v. RFP shall mean the County's Request for Proposal No. 1237, dated September 27, 2013, and as subsequently amended.

w. Software shall mean an ordered series of instructions or statements, in object code or source code form, as the case may be, for controlling the operation of a central processing unit to execute a process to be performed on hardware, network System or otherwise required to be delivered by Contractor under the terms hereof, which for the purposes of this Agreement shall consist of System Software.

x. Specifications shall mean the technical and functional specifications describing the features, functionality and processing capabilities of the System, and the identification of any software and hardware requirements needed to implement such features, functionality and processing capabilities, as described in the Statement of Work, Contractor's Technical Proposal, and Contractor's Technical System Design Document to be finalized at Detailed Design Review as such capabilities are amended through the Change Order Process; and with respect to Hardware and Operating System Software, shall mean the manufacturer's specifications therefor.

y. Staging Acceptance shall mean the completion of system level testing performed on the integrated System components in Contractor's facility.

z. Subcontractor shall mean an independent contractor who furnishes supplies or services to Contractor pertaining to this Agreement other than standard commercial supplies, office space and printing services.

aa. System shall mean the microwave radio backhaul network including all hardware and software supplied by Contractor pursuant to this Agreement.

bb. System Acceptance shall mean that County has accepted the essential technical and functional requirements of the Specifications for the System.

cc. System Software shall mean Software, which meets the Specifications, described in Exhibit C whether developed by Contractor or a third-party ("Third Party Software"), commonly known as operating System software, which governs the operation of the Hardware.

dd. Task shall mean a component part of the Project, as described in the Implementation Plan.

ee. Technical System Design Document (TSDD) shall mean the document(s) used by Contractor to build the System as outlined in the submitted Contractor's Technical Proposal and post award design meetings.

ff. Third Party Software shall mean the Software delivered by Contractor hereunder which Software is not owned by Contractor but is obtained by Contractor for incorporation into the System and delivered under third party license agreement.

gg. Warranty Period shall mean the period during which the warranty of Contractor is in effect with respect to Software and Hardware, as set forth in Exhibit B hereof.

2. **Acceptance (Services).** Acceptance procedures for the Services will be as set forth in this Section. "Acceptance" shall be defined as the County's written agreement that the Implementation is complete such that the transmission of voice communications may commence. The County's refusal to provide such written agreement shall constitute a rejection of the Implementation as being complete. No payment for the Services will be due before Acceptance thereof. Any notice of rejection will explain how the Implementation fails to meet the requirements of this Contract. Contractor will, upon receipt of such notice, investigate the reported deficiency and exercise reasonable efforts to remedy it promptly. The County, at its sole discretion, will have the option to re-perform the Acceptance test. If the Contractor is unable to remedy the deficiency within sixty (60) days of notice of rejection, the County shall have the option of terminating this Contract in its entirety for default.

3. **Acceptance (Systems).** Acceptance procedures for the System will be as set forth in this Section. Upon Contractor's written notification to County that Contractor has completed the installation of any one or more components of the System, and that such components are ready for testing, County shall begin pre-live performance testing in a non-production environment using the test procedures, standards and timelines contained in Exhibit C, or such other standards as are mutually agreed upon in writing, to determine whether each component meets in all material respects the applicable Specifications and acceptance criteria set forth herein. After County has tested the component for a period of 30 Days, County shall notify Contractor in writing that testing has occurred. If County determines that the components do not perform as provided for in this Contract, County shall deliver to Contractor, in writing, a report describing any discrepancies. Contractor shall correct the errors within 10 Days after receiving the report. County may then re-test the component(s) for an additional test period of up to 15 Days, at the end of which the process described above may be repeated, if deemed necessary by the County. In the event the errors or defects are caused by software defects, Contractor will make a good faith effort to resolve the problem within 30 Days. Should Contractor fail to achieve acceptable performance of the system, the County may, at its election, pursue any remedies available to the County including, without limitation, (a) terminating this Contract; or (b) accepting the System at its then level of performance; or (c) permit testing to be further extended for such period as mutually agreed upon by the parties, in writing; or (d) accept those portions of the System that pass the acceptance criteria and require Contractor to correct the remaining portions, in which event County shall not be liable for any payments associated with the implementation of such remaining portions until they

have been accepted by County; or (e) pursue such remedies as may be available to County at law or in equity.

4. **Manufacturer Warranty.** Any manufacturer warranties for any System furnished under this Contract shall be passed through from Contractor to the County.

5. **Performance Warranty (Services).** Contractor represents and warrants that it will provide the Services in a commercially reasonable manner in substantial conformity with the Documentation (the "Performance Warranty"). Except as may be expressly agreed in writing by Contractor, Contractor's Performance Warranty does not apply to defects, problems, or failures caused by the County's nonperformance of obligations essential to Contractor's performance of its obligations.

6. **Performance Warranty (Hardware System).** Contractor warrants that each Hardware component, when delivered to County, will be in good operating condition, free from defects in material and workmanship. Contractor further warrants that each Hardware component will perform in accordance with the Specifications and any published documentation specifications for the Hardware, for a period of 36 months from the date of County's Acceptance of the Hardware. In the event of any Deficiency during the warranty period, County will reasonably attempt to notify Contractor within five (5) working days, but County's failure to notify Contractor within such time period shall not affect Contractor's warranty obligations under this Contract. Contractor shall undertake correction action as set forth in this Section within two (2) working days. Contractor warrants and agrees that that Contractor shall correct any and all Deficiencies in the Hardware System identified during the applicable warranty period, including but not limited to making such additional changes, modifications, additions or adjustments to the Hardware System as may be necessary to keep the Hardware System operating in accordance with the Specifications. The correction of Deficiencies during the warranty period shall be at no cost to the County.

7. **Breach of Warranty Obligations.** In the event Contractor fails to perform its obligations set forth in Exhibit C, then County may, after written notice to Contractor and in the event Contractor, after five (5) working days of such notice, has still failed to perform such obligations, perform any required correction, replacement or other work and either invoice or debit Contractor (at County's option) at County's direct actual cost of outside labor and materials and County's burdened (including, without limitation, salary, employee benefits and reimbursement policies) rates for labor. Any such debit may be made against any amounts owed by County to Contractor under this Contract or otherwise.

8. **Software Ownership Warranty.** Contractor warrants that it is the owner of the licensed Software and that it has full right to license to County the (non-exclusive) use of the licensed Software. County shall be entitled to use the licensed Software without interruption of System use, subject only to County's obligation to make the required payments under this Contract. Contractor represents and warrants that this Contract is neither subject nor subordinate to any right or claim of any third party including, without limitation, any creditors of Contractor. Further, Contractor represents and warrants that Contractor will not subordinate this Contract or any of Contractor's rights hereunder to any third party without the County's prior written consent, during the term of this Contract.

9. **Work for Hire.** Subject to County's fulfillment of its payment obligations hereunder, Contractor warrants that its work, pursuant to Exhibit C [Statement of Work], will be work made for hire, and County shall be the owner. All documents and computer files prepared in the course of providing the Services under this Contract, if any, shall be the sole property of the County, unless otherwise agreed to by Contractor and County.

# Statement of Work

COUNTY OF SAN LUIS OBISPO

MICROWAVE HARDWARE AND REPLACEMENT SERVICES

NA121130-61190

Release 1.0
10/28/2013

Issue Releases

| Issue Number | Issue Release Date | Changes | Preparer |
|---|---|---|---|
| 1.0 | 10/28/2013 | Initial Release | James DelCarlo |

# EXECUTIVE SUMMARY

## *Purpose of Document*

This Statement of Work (SOW) specifies the deliverables and defines the responsibilities and other relevant terms applicable to the planning and delivery of microwave and associated products from Aviat Networks and its partners, as well as the professional services required to engineer and implement the proposed solution for COUNTY OF SAN LUIS OBISPO.

In circumstances where Aviat Networks and COUNTY OF SAN LUIS OBISPO have an existing master services agreement, the terms and conditions of that agreement will supersede conflicts or overlaps with the scope of work defined in this document.

Execution of the services listed in this SOW is governed by the terms and conditions of this Contract. Neither party is obligated to provide any such services until the Contract is executed by both parties.

## *Project Scope*

This SOW only applies to MICROWAVE HARDWARE AND REPLACEMENT SERVICES project proposed by Aviat Networks, and cannot be extended to other projects. Aviat Networks will provide the following services to COUNTY OF SAN LUIS OBISPO:

- ☑ Project Management
- ☑ Transmission Engineering
- ☑ Configuration Engineering
- ☑ Factory Integration and Testing
- ☑ Radio Installation
- ☐ Civil Construction
- ☐ Site Acquisition
- ☑ Prevailing Wages
- ☐ Other: _____
- ☑ Network Engineering
- ☑ Project Engineering
- ☑ Drafting
- ☑ Antenna & Line Installation
- ☑ Network Integration
- ☐ Consulting Services
- ☐ A&E Services

Any required services or material not specified in this SOW will be provided by COUNTY OF SAN LUIS OBISPO, and will not be considered part of Aviat Networks' responsibilities. Any such service, if deemed possible by Aviat Networks, can be quoted and performed in accordance with the terms and conditions of the signed contract between Aviat Networks and COUNTY OF SAN LUIS OBISPO. Once approved, these agreed items will be added to the current SOW upon placement of a new or adjusted services purchase order. For a full list of Aviat provided equipment, please refer to the project's equipment list.

COUNTY OF SAN LUIS OBISPO and Aviat Networks acknowledge that meeting the planned project completion date requires the cooperation of said parties. Any changes requested by COUNTY OF SAN LUIS OBISPO before the design freeze date*, will be considered part of the design finalization phase of the project and not subject to a formal change order, IF the requested change falls within the original scope and hours of the project. Any changes requested by COUNTY OF SAN LUIS OBISPO after the design freeze date, will be subject to review by Aviat Networks and could result in a change order fee and/or a delay in material delivery to the field. * See Appendix B for more detail on the design freeze.

Completion and accuracy of all deliverables are subject to the integrity of the information gathered during the proposal, field surveys, final design phase, and the information provided by COUNTY OF SAN LUIS OBISPO pertaining to the existing system (if applicable). Aviat Networks will not be held accountable for validating the accuracy of the information provided by COUNTY OF SAN LUIS OBISPO. Any changes resulting from incorrect information provided by COUNTY OF SAN LUIS OBISPO or any COUNTY OF SAN LUIS OBISPO contracted party, will be charged to COUNTY OF SAN LUIS OBISPO as a billable change order.

COUNTY OF SAN LUIS OBISPO furthermore agrees that any delays caused by inadequate site readiness for which COUNTY OF SAN LUIS OBISPO was responsible for, may prohibit Aviat Networks from meeting the project completion date and the date may require adjustment as a result of such delays. In the event of such delays, Aviat Networks and COUNTY OF SAN LUIS OBISPO will make a reasonable effort to resolve the issue and mutually agree on new project milestones.

Documents submitted by Aviat Networks to COUNTY OF SAN LUIS OBISPO for approval shall be reviewed and approved in ten (10) working days from the date of receipt. If Aviat Networks does not receive comments and/or approval within this timeline, it will be assumed that the documents are approved as submitted and Aviat Networks will proceed with any associated work.

## *Project Summary*

| | | | |
|---|---|---|---|
| Number of Hops | 12 | Number of Sites | 13 |
| Number of parallel RF Channels | 0 | Number of Sites | |
| Radio Equipment Family | Eclipse/IRU600 | Frequency Band | 6GHz |
| Link Capacity | 135Mbps/25Mbps | Protection Types | MHSB, SD |
| Traffic Types | Ethernet+TDM | Project Location | CA |

## *Supporting Documents*

The following documents will be provided by Aviat Networks in support of this project and must be reviewed, approved and/or signed off by COUNTY OF SAN LUIS OBISPO as part of the project completion. Although it is Aviat Networks' responsibility to provide the documents to COUNTY OF SAN LUIS OBISPO, it is COUNTY OF SAN LUIS OBISPO's responsibility to provide a signed copy of the documents to Aviat Networks before the final project completion.

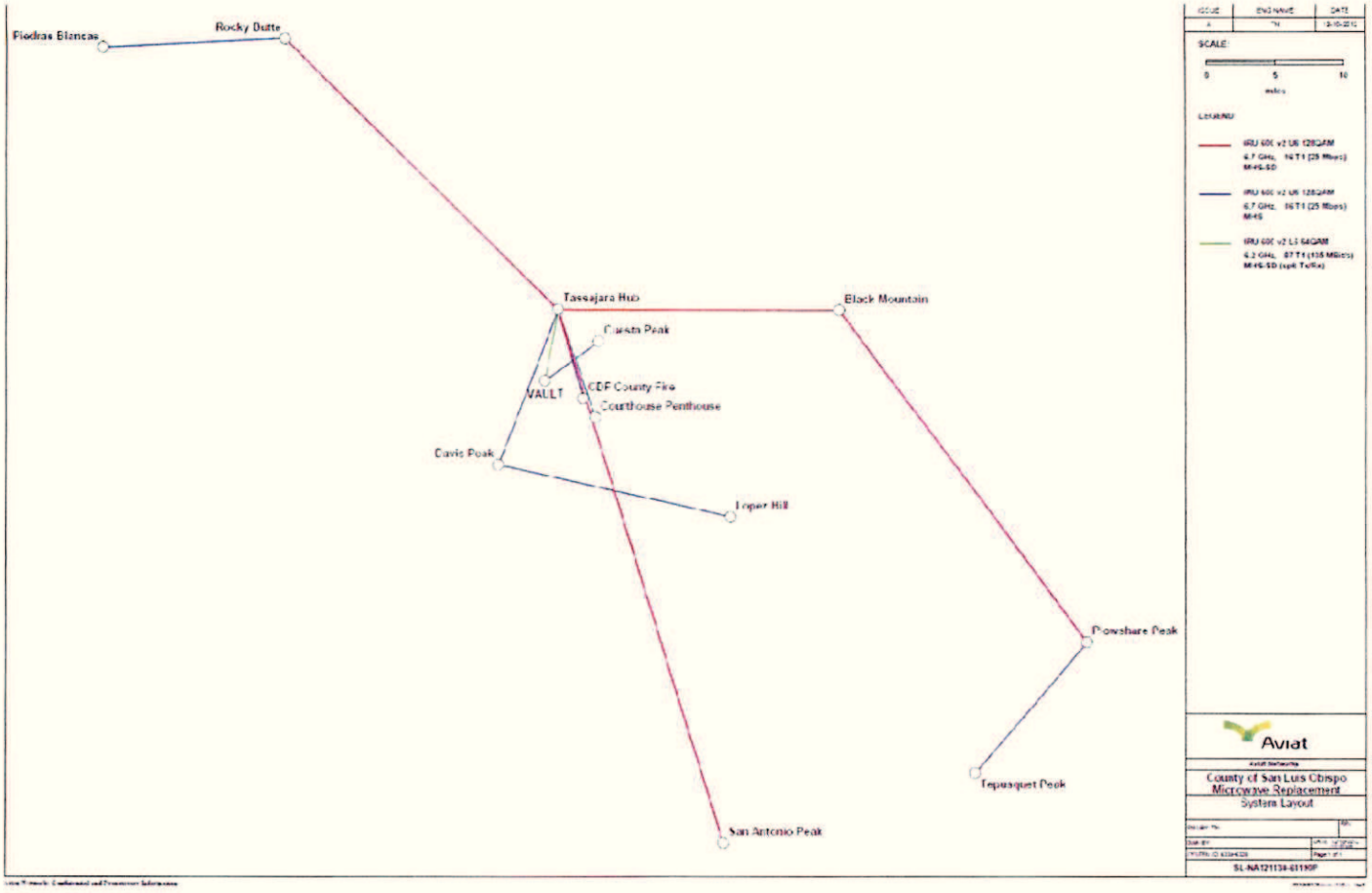
| | Document | Master Document | Requires Customer Acceptance/Sign-off? |
|---|---|---|---|
| Planning | Project Schedule | Project Schedule | Yes |
| | Statement of Work | This document | Yes |
| Design | DC Power Plant or DC System Plan | Design Freeze Package | No |
| | Design Freeze Package | Design Freeze Package | Yes |
| | Equipment List | Equipment List | No |
| | Frequency Datasheets | Path Survey Report | No |
| | Floor Plan | Installation Specifications | No |
| | IP Plan | Design Freeze Package | No |
| | NMS Plan | Design Freeze Package | No |
| | Path Calculations and Path Profiles | Path Survey Report | No |
| | Path Survey Report | Path Survey Report | Yes |
| | Rack Profiles and Wiring Diagrams | Installation Specifications | No |
| | Site Survey Report | Site Survey Report | No |
| | Synchronization Plan | Design Freeze Package | No |
| | System Layout | Design Freeze Package | No |
| | Traffic Plan | Design Freeze Package | No |
| Implementation | Antenna Installation Checklist | Installation Specifications | Yes |
| | Antenna Mounting Design | Installation Specifications | No |
| | Antenna System Audit Form | Installation Specifications | Yes |
| | As Built Record Sets | As Build Records | No |
| | Change Order Form | This document | Yes |
| | Equipment Installation Checklist | Installation Specifications | Yes |
| | Field Acceptance Test Plan | Installation Specifications | Yes |
| | Installation Specifications | Installation Specifications | No |
| | Injury and Illness Prevention | Installation Specifications | No |
| | Project Completion Sign-off | This document | Yes |
| | Punch List Completion Report | Installation Specifications | Yes |
| | Quality Checklists | Installation Specifications | Yes |
| | Site Installation Completion Report | Installation Specifications | Yes |
| | System Installation Completion Report | Installation Specifications | Yes |
| | Traffic Cutover Plan | Installation Specifications | No |
| | RF Cutover Plan | Installation Specifications | No |

## System Summary

- **Topology**

*This proposal quotes the equipment required to upgrade the existing system, comprised of Constellation and unlicensed radios, with an all new, IRU600 microwave radios. The proposal also includes program management, transmission engineering, network engineer and installation services.*

*Please refer to system topology below.*




- **Main Equipment**

*Proposed main equipment is Eclipse/IRU600 packet node radios. This product consists of two major components, INUe (Intelligent Nodal Unit) and IRU600 (RF unit). Both are designed to be installed indoor on a 19" rack. The proposed radio has a very high system gain which is suitable for all indoor backhaul solution. A waveguide extension kit is proposed for every radio which will extend the radio's RF interface to the top of the rack. This facilitates a clean, consistent installation.*

*Our proposed solution supports the use of the lower and upper 6 GHz bands. This approach simplifies spare management and improves path reliability. If 11 GHz is needed due to frequency coordination or tower loading, Aviat can change the related path to the suitable band.*

*Proposed solution supports paired (per FCC channel plan) or unpaired frequencies, as long as the following is complied with,*
- *6GHz, 90MHz<T/R spacing*
- *11GHz, 120MHz<T/R spacing<699MHz*

*In this project, channel bandwidth will be 30MHz in L6GHz for Main Vault to Tassajara Hub hop, and 5MHz in U6GHz for all the remaining hops. 135Mbps capacity with 64QAM modulation is proposed for L6GHz hop. All other hops have 25Mbps capacity with 128QAM modulation.*

*The proposed radio supports ACM (adaptive coding modulation). Using ACM, the Eclipse Packet Node will operate at 256 QAM modulation to provide maximum throughput under favorable path conditions and will switch to a less complex modulation scheme (and lower throughput) under less favorable conditions. Ethernet traffic can be tagged so that high priority traffic does not get dropped when the radios throttle back throughput in those moments when link conditions deteriorate. Modulation switching is hitless for prioritized Ethernet traffic not affected by a reduction in modulation.*

*Modulation options supported by ACM operation are QPSK, 16QAM, 64QAM and 256QAM. With each of the modulation index options, there are also two coding options. The two coding options are high system gain and high throughput.*

*Aviat has listed the ACM license as optional (not included in total). Aviat is willing to discuss with customer to determine if ACM is needed in the system.*

*Aviat has proposed 16xDS1 (25Mbps) capacity radios for most of the links. The exception as the hop between Tassajara Hub and Main Vault, for which, Aviat has proposed 135Mbps capacity. The hop between Tassajara Hub to the Main Vault, 48DS1 and Ethernet interface is proposed per the County's clarification in Q&A. For the remaining hops, DS1's are based on the customer provided channel plan. An Ethernet interface is also proposed for the remainder of the unused bandwidth.*

*All DS1, DS3 and Ethernet interfaces proposed at each site are fully hardware protected. At all sites, a new jackfield is proposed to provide DS1 interface to existing channel banks.*

*The proposed solution supports Secured management, Radius and Payload encryption (AES). These features are FIPS 197 and FIPS 140-2 compliant. They are enabled by a software license key. License keys are listed as options (not included in totals).*

- ***Path Profile and Path Calculation***

*Path Profiles are generated from USGS7.5 digital Terrain Database. No trees or obstructions have been added on the paths considering specific situation of this area (Aviat Networks usually add 80ft trees in path study).*

*Antenna heights/centerlines should be derived based on path distance, frequency band, path profiles, and clearance criteria. Clearance criteria 100%F1@K=1.33 and 60%F1@K=1 for the main path; and 60%F1@K=1.33 for the space diversity path are used to analyze LOS of paths.*

*In this project, existing antenna centerlines were used for all existing links. These centerlines may change based on actual path survey results.*

*Please refer to path profiles for details. Please note they are based on a paper study only and are for reference purposes only. LOS situation of all hops will be determined after path survey and frequency coordination has been performed.*

*Aviat has provided path calculations for each hop. The Vigants 1975 reliability models have been used in the path calculations. Calculation result shows all hops having better than 99.9995% one-way reliability. Please refer to path calculation for details.*

- ***Other Equipment***

*Aviat has proposed a total of twelve (12) new antennas. Eight (8) of them are proposed for existing four unlicensed radio upgrades. Two (2) of them are proposed for the Plowshare Pk – Tepusquet Pk hop per customer's clarification. Due to FCC compliance, two (2) of them are proposed for Tassajara Hub – Main Vault diversity dishes upgrade.*

*Commscope/Andrew antennas (PAR6-65) have been proposed. These antennas are FCC CAT-A antennas.*

*Commscope/Andrew elliptical waveguide and mounting accessories are also proposed with new antenna systems, except the diversity antennas for Tassajara Hub– Main Vault hop, for which the existing waveguide will be re-used.*

*Waveguide length, model and quantity of waveguide installation material may need to be adjusted after site survey and frequency coordination.*

*Dehydrators (MT050B-81315) from Commscope are proposed at five (5) sites per request in the RFP.*

*SiteBoss 550 from Asentria is proposed at every site. It can provide up to sixty-four (64) dry contact closure connections. Another module, which can provide 32 contact closure, 8 relay output and 8 analogue voltage input, is listed as an option.*

*A new set of Eclipse spares is proposed.*

*Aviat has also proposed Provision EMS/NMS. It can be used to manage Eclipse radios and Asentria SiteBoss 550 equipment. It can also be used to manage other SNMP compatible equipment if required. Aviat also proposed RS232 data channel between Main Vault and Tassajara Hub, which provides the FARSCAN channel back to Main Vault for Megastar radios between Tassajara and Black Mountain after cut-over.*

*All proposed rack mountable equipment will be installed on existing 19"x7'6" racks. However, Aviat has proposed a breaker panel and properly sized circuit breakers for newly proposed equipment.*

*Aviat assumes that existing power supply system will be sufficient to power the new equipment proposed. Aviat has provided a per site power consumption calculation for reference.*

## PLANNING AND DESIGN SERVICES AND RESPONSIBILITIES

### *Project Management*

#### *Project Management Services provided by Aviat*

| | | |
|---|---|---|
| Assigns a Project Manager to manage the project | ◉ Yes | ○ No |
| Manages Civil construction | ○ Yes | ◉ No |

#### *Project Management Responsibilities**

| | | |
|---|---|---|
| **Planning:** | | |
| Develop project schedule for Aviat Engineers | ☐ Customer | ☑ Aviat |
| Develop project schedule for COUNTY OF SAN LUIS OBISPO's supporting vendors | ☑ Customer | ☐ Aviat |
| Establish an action register | ☑ Customer | ☑ Aviat |
| Establish a communications plan | ☑ Customer | ☑ Aviat |
| Establish a change management plan | ☑ Customer | ☑ Aviat |
| Establish a risk management strategy | ☑ Customer | ☑ Aviat |
| Provide quality standards and procedures document | ☐ Customer | ☑ Aviat |
| Establish a resource management plan for Aviat resources | ☐ Customer | ☑ Aviat |
| Develop a responsibility matrix, detailing principle team members by function | ☐ Customer | ☑ Aviat |
| Provide details of COUNTY OF SAN LUIS OBISPO's principle team members by function | ☑ Customer | ☐ Aviat |
| Provide details of COUNTY OF SAN LUIS OBISPO's single point of contact for Aviat | ☑ Customer | ☐ Aviat |
| Site access policies and procedures | ☑ Customer | ☐ Aviat |
| Site access as required | ☑ Customer | ☐ Aviat |
| Building/shelter/enclosure access as required | ☑ Customer | ☐ Aviat |
| **Execution:** | | |
| Act as primary point of contact for COUNTY OF SAN LUIS OBISPO | ☐ Customer | ☑ Aviat |
| Finalizes project terms and scope with COUNTY OF SAN LUIS OBISPO | ☐ Customer | ☑ Aviat |
| Chair meetings to assign tasks, evaluate progress and address issues | ☐ Customer | ☑ Aviat |
| Coordinate Aviat Networks' day-to-day activities through to project signoff | ☐ Customer | ☑ Aviat |
| Coordinate COUNTY OF SAN LUIS OBISPO's supporting vendors' day-to-day activities | ☑ Customer | ☐ Aviat |
| Monitor progress against the agreed-upon project milestones | ☐ Customer | ☑ Aviat |
| Report on progress as agreed to in the Communications Plan | ☐ Customer | ☑ Aviat |
| Ensure proper site readiness prior to the install start date | ☑ Customer | ☐ Aviat |
| Manage project risk through risk identification, quantification and mitigation | ☐ Customer | ☑ Aviat |
| Coordinate Aviat change orders until project completion | ☐ Customer | ☑ Aviat |
| Review quality checklists and photos for defects | ☑ Customer | ☐ Aviat |
| Ensure the terms and conditions of the contract are complied with | ☐ Customer | ☑ Aviat |
| **Closeout:** | | |
| Manage project close-out activities | ☑ Customer | ☑ Aviat |
| Sign off on close-out activities and final deliverables | ☑ Customer | ☑ Aviat |

#### *Aviat Networks Project Management Deliverables*

| | |
|---|---|
| ☑ Project Schedule | ☑ Action Register |
| ☑ Risk Management Strategy | ☑ Communication Plan |
| ☑ Change Management Plan | ☑ Progress Reports (as required) |

*Refer to ***Appendix A*** for further details regarding the Project Manager's role.

## *Microwave Network Design*

### *Network Design Services provided by Aviat*

| | | |
|---|---|---|
| Equipment List | (•) Yes | ( ) No |
| Path Calculations and Path Profiles | (•) Yes | ( ) No |
| Rack Profiles and Wiring Diagrams | (•) Yes | ( ) No |
| DS0 Traffic Plan | ( ) Yes | (•) No |
| DS1/DS3/OC3 Traffic Plan | (•) Yes | ( ) No |
| IP Traffic Plan | (•) Yes | ( ) No |
| NMS Plan | (•) Yes | ( ) No |
| Synchronization Plan | ( ) Yes | (•) No |
| DC power Plant or DC System Plan | ( ) Yes | (•) No |
| Traffic Cutover Plan | (•) Yes | ( ) No |
| Field Test Plan | (•) Yes | ( ) No |
| Sites/Offices/Locations | ( ) Yes | (•) No |
| Provides copies of equipment datasheets/user manuals | (•) Yes | ( ) No |

### *Network Design Responsibilities**

| | | |
|---|---|---|
| Planning: | | |
| Microwave system requirements | ☑ Customer | ☐ Aviat |
| Existing traffic, IP and NMS plans | ☑ Customer | ☐ Aviat |
| Anticipated channel plan requirements | ☑ Customer | ☐ Aviat |
| Preliminary system design during or after initial proposal | ☐ Customer | ☑ Aviat |
| Preliminary path calculations for selected Aviat Network radios | ☐ Customer | ☑ Aviat |
| Design: | | |
| Final equipment list | ☐ Customer | ☑ Aviat |
| Final path calculations and path profiles | ☐ Customer | ☑ Aviat |
| Site Specific Diagram (RP's and wiring diagrams) | ☐ Customer | ☑ Aviat |
| DS0 traffic plans (if applicable) | ☑ Customer | ☐ Aviat |
| DS1/DS3/OC3 traffic plans (if applicable) | ☑ Customer | ☑ Aviat |
| IP traffic plans (if applicable) | ☐ Customer | ☑ Aviat |
| NMS plan (if required) | ☐ Customer | ☑ Aviat |
| Synchronization plan (if required) | ☑ Customer | ☐ Aviat |
| DC power calculations (if required) | ☐ Customer | ☑ Aviat |
| Traffic cut-over plan and method of procedure (if required) | ☐ Customer | ☑ Aviat |
| Field acceptance test plan(if required) | ☐ Customer | ☑ Aviat |
| Sign-off: | | |
| COUNTY OF SAN LUIS OBISPO sign-off on final network design (design freeze) | ☑ Customer | ☐ Aviat |

### *Aviat Networks Design Deliverables*

☑ Equipment List

☑ Design Freeze Package

*Refer to ***Appendix B*** for further details regarding the Network Design.

## *Microwave Path Design*

| | | |
|---|---|---|
| Path Reliability | 99.9999 % | |
| BER | ○ 10^3 | ◉ 10^6 |
| COUNTY OF SAN LUIS OBISPO exempt from FCC License Fee | ◉ Yes | ○ No |

### *Path Design Services provided by Aviat*

| | | |
|---|---|---|
| Field Path Surveys | ◉ Yes | ○ No |
| Frequency Coordination | ◉ Yes | ○ No |
| FCC Licensing | ◉ Yes | ○ No |
| RF Interference Paper Study | ◉ Yes | ○ No |
| RF Field Measurements | ○ Yes | ◉ No |

### *Path Design Responsibilities**

| | | |
|---|---|---|
| Planning: | | |
| Documents relating to tower or structural analysis and drawings | ☑ Customer | ☐ Aviat |
| Documents relating to previous path surveys and frequency coordination | ☑ Customer | ☐ Aviat |
| Historical path performance details on a per link basis | ☑ Customer | ☐ Aviat |
| Path clearance objective for each path | ☑ Customer | ☐ Aviat |
| Federal Registration number (FRN) and Username and Password | ☑ Customer | ☐ Aviat |
| Design: | | |
| Path surveys to confirm path reliability objectives | ☐ Customer | ☑ Aviat |
| Site elevation and coordinates | ☐ Customer | ☑ Aviat |
| Existing antenna mounting structure description and information (tower type) | ☑ Customer | ☐ Aviat |
| Existing building description and information | ☑ Customer | ☐ Aviat |
| Site plan (drawing with major landmarks for location purposes) | ☑ Customer | ☐ Aviat |
| Final path calculations and path profiles for each hop | ☐ Customer | ☑ Aviat |
| Identify locations of possible sources of spectral reflection (if applicable) | ☐ Customer | ☑ Aviat |
| Information concerning possible obstructions or obstacles | ☐ Customer | ☑ Aviat |
| Recommend antenna size, type and mounting height | ☐ Customer | ☑ Aviat |
| Radio frequency coordination | ☐ Customer | ☑ Aviat |
| Tower permit application (where applicable) | ☑ Customer | ☐ Aviat |
| Prepare and submit FCC License Application (where applicable – Form 601) | ☐ Customer | ☑ Aviat |
| Prepare and submit environmental impact data | ☑ Customer | ☐ Aviat |
| Provide required environmental approvals or permits | ☑ Customer | ☐ Aviat |
| File FCC construction completion notice | ☐ Customer | ☑ Aviat |
| Sign-off: | | |
| Approve recommended antenna size, type and mounting height | ☑ Customer | ☐ Aviat |
| COUNTY OF SAN LUIS OBISPO sign-off on final path design | ☑ Customer | ☐ Aviat |

### *Aviat Networks Path Design Deliverables*

☑ Microwave Path Survey Report

☑ Frequency Datasheets

*Refer to ***Appendix C*** for further details regarding the Path Design.

## *Microwave Site Design*

### *Site Design Services provided by Aviat*

| | | |
|---|---|---|
| Field Site Surveys | (•) Yes | ( ) No |
| Floor plan for Aviat Installation Scope | (•) Yes | ( ) No |
| Traffic Cutover Plan | (•) Yes | ( ) No |
| RF Cutover Plan | (•) Yes | ( ) No |
| Field Acceptance Test Plan | (•) Yes | ( ) No |
| Installation Specifications | (•) Yes | ( ) No |

### *Site Design Responsibilities**

| | | |
|---|---|---|
| Planning: | | |
| Documents relating to tower or structural analysis and drawings | ☑ Customer | ☐ Aviat |
| Design: | | |
| Site surveys | ☐ Customer | ☑ Aviat |
| Existing tower description and information (tower type) | ☑ Customer | ☐ Aviat |
| Existing building description and information | ☑ Customer | ☐ Aviat |
| Site plan (drawing with major landmarks for location purposes) | ☑ Customer | ☐ Aviat |
| Environmental data (if required) | ☑ Customer | ☐ Aviat |
| Flooring, ceiling, racking data and requirements to mount new hardware | ☑ Customer | ☐ Aviat |
| All power, (as is and to be), and breaker assignments | ☑ Customer | ☐ Aviat |
| All power calculation worksheets | ☑ Customer | ☐ Aviat |
| Recommendation for placement of new equipment | ☑ Customer | ☐ Aviat |
| Identify and define antenna mounting hardware | ☐ Customer | ☑ Aviat |
| Identify any grounding issues and recommend improvements | ☑ Customer | ☐ Aviat |
| Identify demarcation types and location between new and existing equipment | ☑ Customer | ☐ Aviat |
| Existing waveguide dehydrator information and their associated cabling | ☑ Customer | ☐ Aviat |
| All structural information regarding power generator | ☑ Customer | ☐ Aviat |
| Recommendation for any site or shelter upgrades | ☑ Customer | ☑ Aviat |
| Recommendation for tower upgrades | ☑ Customer | ☐ Aviat |

### *Aviat Networks Site Design Deliverables*

- ☑ Microwave Site Survey Report
- ☑ Traffic Cutover Plan
- ☑ RF Cutover Plan
- ☑ Field Acceptance Test Plan
- ☑ Installation Specification

*Refer to ***Appendix D*** for further details regarding the Site Design.

## *Installation, Integration & Testing*

### *Installation Services provided by Aviat*

| | | |
|---|---|---|
| Tower installation | ○ Yes | ◉ No |
| Antenna system installation | ◉ Yes | ○ No |
| Transmission line installation | ◉ Yes | ○ No |
| Shelter installation | ○ Yes | ◉ No |
| Indoor equipment and rack installation | ◉ Yes | ○ No |
| AC/DC power equipment and/or ground installation | ○ Yes | ◉ No |
| DC Power Equipment | ○ Yes | ◉ No |
| Ground Installation | ○ Yes | ◉ No |
| Antenna alignment on newly installed antennas only | ◉ Yes | ○ No |
| Equipment Decommissioning | ◉ Yes | ○ No |

### *Integration Services provided by Aviat*

| | | |
|---|---|---|
| Microwave equipment integration | ◉ Yes | ○ No |
| Dehydrator integration | ◉ Yes | ○ No |
| NMS integration | ◉ Yes | ○ No |

### *Testing Services provided by Aviat*

| | | |
|---|---|---|
| Station test | ◉ Yes | ○ No |
| Hop test | ◉ Yes | ○ No |
| System test | ◉ Yes | ○ No |
| Traffic cutover (Support to County) | ◉ Yes | ○ No |
| RF Cutover | ◉ Yes | ○ No |

### *Installation, Integration & Testing Responsibilities**

| | | |
|---|---|---|
| General Project Responsibilities: | | |
| Obtain all necessary environmental and public agency approvals/documentation | ☑ Customer | ☐ Aviat |
| Obtain all necessary construction permits and documentation | ☑ Customer | ☐ Aviat |
| Access to sites in accordance with the project schedule | ☑ Customer | ☐ Aviat |
| Normal road access for all project related vehicles | ☑ Customer | ☐ Aviat |
| Transport of Aviat Networks supplied equipment customer warehouse | ☐ Customer | ☑ Aviat |
| Transport of Aviat Networks supplied equipment to sites | ☐ Customer | ☑ Aviat |
| Transport of Aviat Networks personnel to and from sites | ☐ Customer | ☑ Aviat |
| Safety and first aid material and supplies to Aviat Networks personnel | ☐ Customer | ☑ Aviat |
| Site & Civil Services: | | |
| Leasing, zoning, permits and inspections | ☑ Customer | ☐ Aviat |
| Soil analysis or provide report | ☑ Customer | ☐ Aviat |
| Foundation design for tower/shelter | ☑ Customer | ☐ Aviat |
| Site construction (demolition, grading, erosion control, drainage, etc.) | ☑ Customer | ☐ Aviat |
| Civil documentation for existing shelters and tower | ☑ Customer | ☐ Aviat |
| Structural design package required to support proposed antenna system | ☑ Customer | ☐ Aviat |
| Structural analysis report for the existing antenna system | ☑ Customer | ☐ Aviat |
| Site layout drawings, plot plans or applicable architectural blueprints | ☑ Customer | ☐ Aviat |

| | | |
|---|---|---|
| Locate and mark all site boundaries and features | ☑ Customer | ☐ Aviat |
| Secure storage for all equipment including radios, antennas and racks | ☑ Customer | ☐ Aviat |
| Standard equipment packaging | ☐ Customer | ☑ Aviat |
| Unpack Aviat Networks equipment and remove packing material from site | ☐ Customer | ☑ Aviat |
| Verify packing list to specifications | ☐ Customer | ☑ Aviat |
| Installation Services: | | |
| Tower Installation: | | |
| Antenna system support structures: towers, monopoles and tripods | ☑ Customer | ☐ Aviat |
| Ground resistivity measurements and report of newly installed ground system | ☑ Customer | ☐ Aviat |
| Lay tower foundation | ☑ Customer | ☐ Aviat |
| Tower painting | ☑ Customer | ☐ Aviat |
| Provide and install tower lights | ☑ Customer | ☐ Aviat |
| Provide and install safety climb and safety climb ladder | ☑ Customer | ☐ Aviat |
| Provide and install lightning rod | ☑ Customer | ☐ Aviat |
| Provide and install platform | ☑ Customer | ☐ Aviat |
| Provide and install footing hardware and penetrations for structure on rooftops | ☑ Customer | ☐ Aviat |
| Adequate earth ground in accordance with EIA/TIE standard 222G | ☑ Customer | ☐ Aviat |
| Connect tower ground to site ground, in accordance with EIA/TIA standard 222G | ☑ Customer | ☐ Aviat |
| Antenna System Installation: | | |
| Provide and install specialized antenna mounts | ☐ Customer | ☑ Aviat |
| Provide and paint antenna to match structure or specific color | ☑ Customer | ☐ Aviat |
| Provide and paint lines to match structure or specific color | ☑ Customer | ☐ Aviat |
| Provide and install tower or rooftop pole mounts | ☑ Customer | ☐ Aviat |
| Provide and install any required steel support members for side braces | ☑ Customer | ☐ Aviat |
| Provide and install standard tower leg pipe mounts Assumption is all existing mounts can be reused) | ☑ Customer | ☑ Aviat |
| Provide and install standard face mounts, if required. | ☐ Customer | ☑ Aviat |
| All RF/Microwave antenna mounting brackets | ☐ Customer | ☑ Aviat |
| Antenna feeder window/bridge and cable tray supports | ☑ Customer | ☐ Aviat |
| Antennas and radomes at specified centerlines | ☐ Customer | ☑ Aviat |
| Ice shields at specified locations | ☑ Customer | ☐ Aviat |
| Cranes, man lifts, snowmobiles, ATV's, or special hoisting equipment | ☐ Quoted | ☑ Not Quoted |
| Transmission Line Installation: | | |
| Waveguide ladders | ☑ Customer | ☐ Aviat |
| Waveguide bridges | ☑ Customer | ☐ Aviat |
| Rooftop sleepers for transmission lines and ground plates | ☑ Customer | ☐ Aviat |
| Provide and install cable trays | ☑ Customer | ☐ Aviat |
| Provide and install hanger kits and ground kits | ☐ Customer | ☑ Aviat |
| Penetrate building walls or roof and install waveguide ports and entry plates | ☑ Customer | ☐ Aviat |
| Provide and install waveguide boots at waveguide entry plates | ☐ Customer | ☑ Aviat |
| Terminate and label waveguide runs | ☐ Customer | ☑ Aviat |
| Shelter Installation: | | |
| Provide shelters, cabinets or enclosures | ☑ Customer | ☐ Aviat |
| Provide and lay shelter foundation | ☑ Customer | ☐ Aviat |

| | | |
|---|---|---|
| Shelter installation | | |
| Indoor Equipment and Rack Installation: | | |
| Provide and install cable ladders or trays | ☑ Customer | ☐ Aviat |
| Provide and install new racks in specified locations (existing racks to be used everywhere) | ☑ Customer | ☐ Aviat |
| Provide and install bracing supports | ☐ Customer | ☑ Aviat |
| Provide and install pressurization equipment, see project spreadsheet for selected sites. | ☐ Customer | ☑ Aviat |
| AC/DC Power Equipment and/or Ground Installation: | | |
| Perform electrical (underground conduits, trenching, AC power source, etc.) | ☑ Customer | ☐ Aviat |
| Provide and install ground ring | ☑ Customer | ☐ Aviat |
| Provide and install generator and fuel tank | ☑ Customer | ☐ Aviat |
| Provide and install DC circuit breakers to support Aviat Networks equipment | ☑ Customer | ☐ Aviat |
| Provide and install charger racks | ☑ Customer | ☐ Aviat |
| Provide and install battery into charger rack or on floor as required | ☑ Customer | ☐ Aviat |
| Field Integration Services | | |
| Integrate Aviat Networks microwave equipment | ☐ Customer | ☑ Aviat |
| Integrate rack ground to ground distribution in shelter | ☐ Customer | ☑ Aviat |
| Integrate DC wiring to specified distribution panels | ☐ Customer | ☑ Aviat |
| Integrate payload wiring to designated demarcation | ☐ Customer | ☑ Aviat |
| Integrate Ethernet wiring to designated demarcation | ☐ Customer | ☑ Aviat |
| Integrate alarm contacts to designated demarcation | ☐ Customer | ☑ Aviat |
| Integrate battery wiring to designated chargers | ☑ Customer | ☐ Aviat |
| Connect radio antenna ports to waveguide flex sections | ☐ Customer | ☑ Aviat |
| Set dehydrator pressure to 4psi (new antenna systems) | ☐ Customer | ☑ Aviat |
| Install and Integrate NMS software into customer's radio network | ☐ Customer | ☑ Aviat |
| Customer equipment | | |
| Customize NMS alarm designations | ☐ Customer | ☑ Aviat |
| Testing Services: | | |
| Review and approve Aviat Field Acceptance Test plan | ☑ Customer | ☐ Aviat |
| Station Test: | | |
| Perform grounding inspection | ☑ Customer | ☐ Aviat |
| Perform equipment inspection | ☑ Customer | ☐ Aviat |
| Hop Test: | | |
| Perform antenna system test | ☐ Customer | ☑ Aviat |
| Perform DC power system test | ☑ Customer | ☐ Aviat |
| Perform microwave equipment test | ☐ Customer | ☑ Aviat |
| Perform transmit power output test | ☐ Customer | ☑ Aviat |
| Perform receive signal level test | ☐ Customer | ☑ Aviat |
| Perform receiver threshold (fade margin) test | ☐ Customer | ☑ Aviat |
| Perform transmitter/receiver switching test | ☐ Customer | ☑ Aviat |
| Perform Layer 2 link aggregation test | ☐ Customer | ☑ Aviat |
| Perform adaptive modulation test | ☐ Customer | ☑ Aviat |
| Perform Ethernet test | ☐ Customer | ☑ Aviat |
| Perform AUX alarm/data card test | ☐ Customer | ☑ Aviat |
| Perform channel bank test | ☑ Customer | ☐ Aviat |

| | | |
|---|---|---|
| Perform multiplexer test | ☑ Customer | ☐ Aviat |
| Perform IP phone test | ☑ Customer | ☐ Aviat |
| Perform order wire test | ☑ Customer | ☐ Aviat |
| Perform dehydrator test | ☐ Customer | ☑ Aviat |
| Perform 1-hour BER test | ☐ Customer | ☑ Aviat |
| <u>System Test:</u> | | |
| Perform IP phone test | ☑ Customer | ☐ Aviat |
| Perform order wire test | ☑ Customer | ☐ Aviat |
| Perform network continuity test | ☐ Customer | ☑ Aviat |
| Perform Provision element manager test | ☐ Customer | ☑ Aviat |
| Perform 12-hour BER test | ☐ Customer | ☑ Aviat |
| Perform 4-hour diversity BER test | ☐ Customer | ☑ Aviat |
| <u>Traffic/RF Cutover:</u> | | |
| Provide technical personnel familiar with existing equipment and cutover plan | ☑ Customer | ☐ Aviat |
| Schedule cutover of all complete traffic immediately following installation | ☑ Customer | ☐ Aviat |
| Transfer circuit wiring | ☑ Customer | ☐ Aviat |
| Verify integrity of circuits being cutover | ☑ Customer | ☐ Aviat |
| Perform RF cutover | ☐ Customer | ☑ Aviat |
| Perform traffic cutover | ☑ Customer | ☑ Aviat |
| Final Site Acceptance Procedure | | |
| Notify all parties involved of site completion | ☐ Customer | ☑ Aviat |
| Perform site installation inspection | ☑ Customer | ☐ Aviat |
| Complete indoor quality checklist | ☑ Customer | ☐ Aviat |
| Complete tower quality checklist | ☑ Customer | ☐ Aviat |
| Submit final punch list of all deficiencies to be corrected to Aviat | ☑ Customer | ☐ Aviat |
| Identify all critical punch list items | ☑ Customer | ☐ Aviat |
| Review, agree and sign off on final punch list | ☑ Customer | ☑ Aviat |
| Sign off on Aviat Networks site installation checklist form | ☑ Customer | ☐ Aviat |
| Final System Acceptance Procedure | | |
| Sign off on Aviat Networks field acceptance test results | ☑ Customer | ☐ Aviat |
| Resolution of customer vendor issues affecting completion or project | ☑ Customer | ☐ Aviat |
| Sign off on Aviat Networks installation completion report | ☑ Customer | ☐ Aviat |
| Sign off on project acceptance based on acceptance criteria of project | ☑ Customer | ☐ Aviat |
| Issue final invoice for services upon acceptance of the system | ☐ Customer | ☑ Aviat |
| Provide as-built drawings for Aviat provided equipment | ☐ Customer | ☑ Aviat |

***Aviat Networks Installation, Integration & Testing Deliverables***

- ☑ Site Installation Completion Report
- ☑ Quality Checklists
- ☑ System Installation Completion Report
- ☑ Field Acceptance Test Report (completed)
- ☑ Punch List Completion Report
- ☑ As-built Record Sets

*Refer to ***Appendix E*** for further details regarding the Installation, Integration and Testing Services.

# APPENDIX A: PROJECT MANAGEMENT

Responsibilities

Aviat Networks will assign a Project Manager for the duration of the project to administer all aspects of the contract between Aviat Networks and COUNTY OF SAN LUIS OBISPO. The Project Manager will act as the primary point of contact for COUNTY OF SAN LUIS OBISPO to facilitate effective resource management, escalations, approval processes, scheduling, communication, and reporting with Aviat Engineers and other designated vendors as needed. The Project Manager is responsible for maintaining control of the project and assuring compliance with the project and customer specifications. Aviat Networks will not be responsible for the resolution of COUNTY OF SAN LUIS OBISPO vendor issues affecting the completion of the project. Any documentation and standards not listed in this SOW will be the responsibility of COUNTY OF SAN LUIS OBISPO to provide or it will default to Aviat Networks standards, where applicable.

Although face-to-face communication and on-site meetings with COUNTY OF SAN LUIS OBISPO are an essential element of the service, in order to reduce travel and living costs activities that do not require face to face contact, some activities will be performed in the Project Manager's Aviat Networks office. These activities are at the discretion of the Project Manager. Refer to section 2.1.2 for a full list of Project Management Responsibilities.

Project Schedule

The project schedule for Aviat Engineers, Aviat sub-contractors, and for COUNTY OF SAN LUIS OBISPO's supporting vendors will be developed and maintained in Microsoft Project and will identify project deliverables, key milestones, resource assignments, and track project progress against each milestone. COUNTY OF SAN LUIS OBISPO and Aviat Networks agree to collaboratively review and agree to the project milestones and deliverable dates prior to the execution of any services on the project. A copy of the project schedule will be available upon request in .pdf or .mpp format.

It will be the responsibility of COUNTY OF SAN LUIS OBISPO to track and deliver against all COUNTY OF SAN LUIS OBISPO internal (including COUNTY OF SAN LUIS OBISPO sub-contractors) milestones. The overall project plan generated by the Aviat Networks Project Manager will show major deliverable milestones, but not internal milestones of COUNTY OF SAN LUIS OBISPO or their contractors. Tracking of COUNTY OF SAN LUIS OBISPO and COUNTY OF SAN LUIS OBISPO's contractor internal milestones will remain the responsibility of the COUNTY OF SAN LUIS OBISPO Project Manager or point of contact.

Communications Plan

Establishment of a communications plan will be done in accordance with the principles of Project Management established by the Project Management Institute (PMI®) unless otherwise agreed to. The plan will involve representatives from Aviat Networks and COUNTY OF SAN LUIS OBISPO and any other affiliated members (if required) for project kickoff meetings, periodic progress meetings, or problem escalations as needed. The plan will include the location and frequency of any such meetings, the format for formal communication and meeting minutes, attendee or distribution lists with contact details, methods of communication, and escalation and management level lists.

COUNTY OF SAN LUIS OBISPO will make appropriate staff available for regular consultation and meetings with the Aviat Networks Project Manager. Failure to attend regular meetings or respond to Aviat Networks questions in a timely manner could result in a delay of the project deliverables.

Change Management Plan

Establishment of a change management plan will be done in accordance with the principles of Project Management established by the Project Management Institute (PMI®) and will include confirmation from Aviat Networks and COUNTY OF SAN LUIS OBISPO's understanding of the process. Each party will work closely with the other to manage any scope changes through the term of the project, and understand their impact on the project performance from a cost, quality, and schedule perspective. Any such change could be subject to a change order fee and will be communicated to and agree to by COUNTY OF SAN LUIS OBISPO prior to the implementation of the change. Any change order approvals will be submitted in writing. Refer to section 1.2 and Appendix B for more details on change orders.

Quality Standards and Procedures

Quality standards and procedures documents will be provided by COUNTY OF SAN LUIS OBISPO unless otherwise stated in this SOW. If no documentation is provided by COUNTY OF SAN LUIS OBISPO, the standards and procedures will default to Aviat Networks Best Practices Guide.

Resource Management Plan

Establishment of a resource management plan will be done in accordance with the principles of Project Management established by the Project Management Institute (PMI®); identifying principle team members by function, including backup resources (if required).

Closeout Activities

During the project closeout, all quality photos will be reviewed, completion documents will be signed with no exceptions, RMA completed, and final billing and invoicing released. It is recommended that COUNTY OF SAN LUIS OBISPO provide Aviat Networks with performance feedback during this time to promote continuous improvement within Aviat Networks.

COUNTY OF SAN LUIS OBISPO Responsibilities
COUNTY OF SAN LUIS OBISPO shall:

- Provide details of COUNTY OF SAN LUIS OBISPO's principle team members by function during the project kickoff meeting.
- Provide details of COUNTY OF SAN LUIS OBISPO's single point of contact for Aviat during the project kickoff meeting.
- Provide all other relevant documentation or resources to assist in gathering information not stated in this SOW.
- Provide access to sites, shelters, buildings, enclosures, facilities or any other areas as required.
- Provide updates as necessary of any site readiness issues to be resolved prior to start of work. This includes, and is not limited to, permitting, leasing, zoning, insurance, etc.
- Provide security clearances and/or escorts as required for field survey and installation activities.
- Provide access to pertinent databases, planning requirements, including strategic plans, expansion scenarios, growth projections, introduction of new services and wireless technology

Deliverables
Refer to section 2.1.3 for a full list of Aviat Networks Project Management deliverables.

# APPENDIX B: NETWORK ENGINEERING

Microwave System and Network Design

The Aviat Networks Network Engineer will provide the overall technical direction of the system design and will work with COUNTY OF SAN LUIS OBISPO to insure system integrity, verify that all sub-systems and Aviat Networks furnished OEM equipment is compatible, and that the desired performance of the system is realized.

The Network Design portion of the project consists of three phases:

1. Preliminary Design
2. Final Design
3. Design Freeze

Preliminary Design Phase

During the Preliminary Design Phase, the Network Engineer will gather data to establish the design criteria and any special customer requirements that need to be incorporated into the final design. The Network Engineer will review and translate the system configuration into specific hardware requirements. Equipment selection will be based on the requirements, input and requests from COUNTY OF SAN LUIS OBISPO, functionality of the equipment, and recommendations from the Aviat Network Engineer. Aviat Networks will provide COUNTY OF SAN LUIS OBISPO with a summary of the preliminary system design prior to commencing field surveys. All preliminary designs are subject to change. Changes can include, but are not limited to changes based on:

- Survey results.
- Vendor shortages or long lead times.
- Customer requests.
- Engineering recommendations.

Design Finalization Phase

After receipt of the order and the project kickoff meeting, Aviat Networks and COUNTY OF SAN LUIS OBISPO enter into the Design Finalization Phase. During this phase, the Network Engineer will incorporate any required changes stemming from the path and/or site surveys into the design and confirm the final design details. Changes can include but not limited to:

- Antennas (types, sizes, models, quantities, and mounts).
- Waveguide (types and lengths), waveguide accessories and dehydrators.
- Power systems, cabling, and other material that could not be finalized prior to conducting the field surveys.

During this phase, COUNTY OF SAN LUIS OBISPO may also request changes to the system design if the changes fall within the original scope and hours of the projects. Any changes outside of the original scope or agreed schedule are subject to review by Aviat Networks to determine the impact and cost on the overall project.

Aviat Networks will provide a formal submission detailing the final system design and equipment list and highlight changes needed to the preliminary design. It is expected that COUNTY OF SAN LUIS OBISPO review the data and schedule a meeting, if necessary, to discuss any concerns. If no concerns are noted, it is COUNTY OF SAN LUIS OBISPO's responsibility to approve the final design in writing (email is acceptable) before the design is frozen and equipment is placed on order (unless otherwise agreed to in the terms and conditions or with the assigned Program Manager). Any delay in the approval of the final design could result in a delay in material delivery to the field. This might require a review by COUNTY OF SAN LUIS OBISPO and Aviat Networks of the project schedule and deadlines.

Design Freeze Phase

As part of the Design Finalization Phase, a date will be set for the design freeze at which the final design and all changes must be approved and accepted by both parties. Following the design freeze will be the Design Freeze Phase during which the Network Engineer will review all design documents and finalize any traffic plans, NMS plans, synchronization plans, traffic cutover requirements, and field acceptance testing requirements for the project. During this phase, the design is frozen and no further changes to the system design will be accepted without a formal change order (billable or non-billable) and reevaluation of the project and delivery schedules. Refer to the project schedule for details on the planned start and finish dates for each of these phases.

Deliverables

Refer to section 2.2.3 for a full list of Aviat Networks Design deliverables.

- Equipment List refers to the final Bill of Material (BOM).
- Design Freeze Package refers to the final path calculations, path profiles, rack profile and system drawings, traffic plans, IP plans, NMS plans, synchronization plans, and/or DC power calculations.

# APPENDIX C: TRANSMISSION ENGINEERING

## Microwave Path Design

The Aviat Networks Transmission Engineer ensures the delivery of the best possible network solution by providing the technical direction for the over-the-path RF performance of Aviat Networks system implementation. All microwave paths designs are preliminary, pending final path surveys and frequency coordination. This includes:

- Antenna selections, antenna centerlines, and antenna mounts.
- Total transmission line lengths.
- Path calculations and profiles.
- The size, type, quantity and configuration of each component.

Equipment proposals are simply a reflection of these preliminary designs and subject to change. It is further understood that any changes to existing or proposed antenna centerlines could justify the need for tower stress analysis or, if modification is impractical, construction of a new tower. Any such requirements will be the responsibility of COUNTY OF SAN LUIS OBISPO unless stated otherwise in the terms and conditions of the signed contract between Aviat Networks and COUNTY OF SAN LUIS OBISPO.

In the event that COUNTY OF SAN LUIS OBISPO elects not to use Aviat Networks to perform path surveys, the performance of the microwave system will not be guaranteed by Aviat Networks and it will be up to COUNTY OF SAN LUIS OBISPO to resolve any path reliability or obstruction issues. Refer to the Warranty of Path Engineering Services section below for further detail.

In the event that Aviat Networks is selected to perform the path surveys, a formal submission detailing the results of the path survey and highlight changes needed to the preliminary design will be submitted to COUNTY OF SAN LUIS OBISPO. It is expected that COUNTY OF SAN LUIS OBISPO review the path survey data and schedule a meeting, if necessary, to discuss any concerns or alternate means of providing path continuity/system reliability. If no feedback is received from COUNTY OF SAN LUIS OBISPO before the final system design approval, Aviat Networks will assume COUNTY OF SAN LUIS OBISPO's acceptance of the survey data, and will immediately proceed with frequency coordination (if applicable).

## Microwave Path Survey, Frequency Planning and Licensing

The microwave path survey is intended to:

- Identify geographical location of sites and antenna, waveguide length and tower requirements.
- Verify path clearance objectives for each of the paths from existing or new tower locations.
- Document obstruction, critical points, and reflection points in each of the paths.
- Verify tower coordinates and site elevations.
- Establish coordinates and height requirements for new towers, as needed for governmental agency registration and licenses (typically filed by COUNTY OF SAN LUIS OBISPO).
- Confirm antenna centerlines and waveguide length requirements. Catalog antennas on the existing structures noting any space limitations in the survey report. An engineer will review the tower for new antenna design space limitations specific to this project only but will not perform a complete tower audit.
- Perform frequency coordination based on available FCC records to reduce the potential for interference between internal or external radio sources on a given system or network.
- Aviat Networks, upon receipt of COUNTY OF SAN LUIS OBISPO's authorization, will prepare the FCC License Application Form 601 with the appropriate technical data. Information such as site location, radio type and frequency will be listed. Aviat Networks will complete and submit the Construction Complete Form 601 on line via FCC Universal Licensing System (ULS).
- File Antenna Structure Registration (ASR) form for towers over 200 feet.

The results of the survey will be utilized by Aviat Networks for preparation of final performance calculations, frequency coordination, government licensing, and tower registration requirements. In the event where Aviat Networks will not be performing the path survey, it will be up to COUNTY OF SAN LUIS OBISPO to provide all the documents needed to Aviat Networks to complete the frequency coordination, licensing, and final system design. Aviat Networks will not be held accountable for validating the accuracy of the information provided by COUNTY OF SAN LUIS OBISPO and assumes no responsibility in any inaccuracies of any part of the path engineering based on the information provided by COUNTY OF SAN LUIS OBISPO or any contact affiliated with COUNTY OF SAN LUIS OBISPO. Any corrective action required as a result of this, will be billed to COUNTY OF SAN LUIS OBISPO as a billable change order.

## Survey Procedures

Preliminary path profiles are drawn based on the supplied site coordinates and contour information extracted from the best available topographic mapping. A field site survey is conducted to verify site coordinates and elevations based on North American Datum 1983 (NAD83) and gather information related to the proposed radio equipment and antenna locations, site access, and site development constraints. A field path survey is then conducted to verify path profile elevations, measure all natural and manmade potential obstructions and assess the reflective potential of all natural and manmade surfaces. Antenna centerline heights were calculated for the proposed frequency band by applying suitable clearance criteria based on the propagation characteristics of the geographic area. The path survey report is considered to be a representation of the

information gathered in the field and as such, reflects a snap-shot in time at the time of the survey. It is not intended to show the final as-built configuration if any of the parameters were changed or updated after the survey report has been released.

Path calculation sheets are then generated for each hop, based upon the recommended centerline heights. Antenna sizes and the choice of propagation protection diversity are chosen to meet the required fade margin and the desired path propagation reliability. Propagation outage and reliability calculations are based on the Vigants model (ref. "Space Diversity Engineering", BSTJ, 1/75).

### Design Criteria

Path clearance criteria must be established for each path on the basis of total system performance objectives, economic considerations, and careful analysis of local atmospheric conditions derived from published climatological data, where available, and reported microwave transmission experience pertinent to the area. Antenna heights much greater than actually needed because an unwarranted increase in system cost, and on paths with significant ground reflections, this can increase the exposure to multipath and ground reflection signal fading. It is desirable to locate the antennas high enough so that even under severe super-standard atmospheric refractive conditions (surface ducting) there is adequate clearance such that signal entrapment does not significantly degrade the fade margin of the path or generate excessive multipath fade activity. The choice of clearance criteria for a microwave path is a balance between cost and performance.

The path clearance criterion as applied to a given geographic area is a function of the degree and direction of atmospheric beam bending and can conveniently be defined by the equivalent earth radius K factor:

$$K = \frac{Effective\ \ Earth's\ \ Radius}{Actual\ \ Earth's\ \ Radius}$$

The Median Propagation value of K = 4/3 allows the normal microwave horizon to be slightly extended when compared to the optical horizon; however, under certain meteorological conditions (for example, during nighttime super-refractivity usually associated with temperature inversions) the value of K increases to 2 or greater for periods of several minutes to several hours. This increases the path clearance and results in the heavy multipath fade activity seen on some reflective paths and antenna decoupling power fading on others.

### Clearance Criteria

The criteria used to design a radio path in regions where the C-factor is equal to or less than 1:

- Main to Main:
  - 100% first Fresnel zone radius over K=4/3, or
  - 60% first Fresnel zone radius over K=1, whichever is greater
- Main to Diversity:
  - 60% first Fresnel zone radius over K=4/3 (Not Applicable)

The criteria used to design a radio path in regions where the C-factor is greater than 1:

- Main to Main:
  - 100% first Fresnel zone radius over K=4/3, or
  - 30% first Fresnel zone radius over K=2/3, whichever is greater
- Main to Diversity:
  - 60% first Fresnel zone radius over K=4/3 (Not Applicable)

### Microwave path performance calculations and warranties

The microwave path design models most frequently employed within the industry (e.g., Vigants, and ITU-R P-530) provide a reasonably accurate (and therefore usually guaranteed) estimate of the cumulative time a path will be out of service due to random atmospheric multipath fading under normal atmospheric conditions. **These models do not (and cannot) accommodate abnormal, unusual, anomalous, or otherwise unpredictable conditions of weather or atmospheric refractivity**.

### Microwave frequency engineering/inter-system interference analysis

Aviat Networks will partner with Comsearch, a CommScope company, to provide cost-effective frequency planning and FCC licensing services for radio communications systems (if required). The planning software used, considers specific operating parameters of both the proposed microwave system and the environment microwave systems (license and proposed) to properly consider the interference potential of the new path or system. Parameters and data elements incorporated into the modeling include, but are not limited to:

- Antenna type, antenna height, elevation, antenna radiation pattern.
- Receiver filter performance.
- Terrain.
- Radio modulation.
- Path orientation
- Receiver threshold

These elements are required to accurately predict specific interfering levels into and from the existing microwave systems. The accuracy of the calculations is ensured by "real time" maintenance of the Comsearch point-to-point microwave, earth station, radio equipment, antenna, interference objective, and contact database.

### Microwave frequency selection

The interference analysis performed on the microwave system identifies available frequencies considering existing and proposed systems found in the Comsearch database. When applicable, an analysis of the systems in the adjacent bands can be done to ensure the microwave system does not receive unwanted threshold degradation. In bands shared with satellite systems, an analysis of potential interference with earth stations and with the geo-stationary satellite orbit can also be done. Additionally, co-located or nearby transmitters already licensed in the required frequency band can be identified in order to reduce the possibility of "bucking" an existing high/low frequency plan that could increase the possibility of receiver overload or reflective interference from a nearby system.

### Microwave frequency coordination and FCC licensing

The majority of microwave bands subject to FCC Rule Part 101 require prior coordination with existing licensees. Aviat Networks will partner with Comsearch to perform the frequency coordination and FCC licensing on behalf of the customer (if required). The procedure will include notification of the technical parameters of the proposed system to all existing and proposed licensees in the area and frequency band of operation. Frequency coordination will also be performed with Canadian and Mexican authorities in border areas when necessary. By FCC rule, recipients are given 30 days to respond, or in some cases an expedited response can be requested.

Upon completion of the prior coordination process, documentation required to satisfy FCC Rule Part 101.103 (d) can be prepared on behalf of the customer. This will include any necessary exhibits, including Supplemental Showings required upon submittal of the requested license application. The FCC filing process includes:

- Filing of the FCC Form 601 microwave application upon written approval from the customer and providing an electronic copy of the application to the customer via email.
- Tracking the status of the application until the license is granted by the FCC. Amendments will be handled expeditiously on behalf of the customer for any questions or concerns from the Commission.
- Email notifications to the licensee when the license is granted by the FCC.
- Filing of the required "Completion of Construction" notification with the FCC upon written approval from the licensee and notification of the filing via email.

### Special Considerations

On all microwave radio paths traversing urban areas there exists the possibility of multiple on- and off-path structural reflections which generate long-delayed echoes, as well as "terrain scatter" RF intra- and inter-system interference. Long delayed, low-level echoes have no effect on digital radio performance; however, the terrain scatter mechanism cannot be accurately predicted nor precisely measured without an extensive and expensive field trial. Consequently, this mechanism is specifically excluded from all current industry-wide path survey and frequency coordination performance guarantees.

The structure supporting the microwave antenna can take many forms. The antenna is most often mounted on a tower, but can be mounted on a variety of structures such as roof tripods, penthouse wall, wooden telephone pole or metal monopole. It is recommended that the customer or end user conduct a structural analysis of the support structure to determine if the structure will support the additional loading imposed by the antenna and its mount. The structure must also meet the twist and sway requirements per EIA/ANSI 222G.

### Site Access

Access to work sites will be made available by COUNTY OF SAN LUIS OBISPO for a minimum of 8 hours per day, 5 days per week or per the agreed schedule in the project plan. All roads leading to work sites shall not require more than a 2-wheel drive vehicle unless stated otherwise and agreed to by both COUNTY OF SAN LUIS OBISPO and Aviat Networks. Any delays or additional cost caused by poor road conditions or site access issues not discussed prior to the start of the surveys will be billed to COUNTY OF SAN LUIS OBISPO as a billable change order and could have a negative impact on the project completion schedule.

### FCC Rules for Filing Accuracy

CFR 47, Part 1.929 specifies that filing accuracy for site coordinates shall be (+/-) 1" latitude and longitude, and for ground elevation (+/-) 1 meter (3.28 ft). Part 1.929(k) (covering modification of FCC licenses) specifies that any change in site coordinates >5" latitude or longitude shall require prior authorization [re-coordination]. Therefore, wherever our survey results deviate more than (+/-) 5" latitude or longitude, or more than +3.28 ft site elevation, frequency re-coordination will be recommended.

### Terms and Conditions

When Aviat Networks performs reliability calculations or path studies (path profiles from mapping or digitized data only) based solely on information supplied by or on behalf of the Customer, these calculations and studies are provided solely for budgetary purposes and shall not be construed as or be used for an installable design.

When conducting a path survey, Aviat Networks will verify site coordinates and ground elevations, and record trees and man-made fixed obstructions on the path. This information will be recorded on the profile for that particular path. Aviat Networks will assign an appropriate growth factor to tree heights.

When Aviat Networks performs frequency planning based, in part or its totality, on data provided by the Customer at the time of the study, Aviat Networks will not be responsible for any interference case that might arise due to errors or omissions in such data. As the usage of microwave bands increase and there is more sharing with satellite services, it may be necessary to perform frequency interference studies and additional path surveys (to determine blockage) to alleviate the possibility of interference from satellite earth stations.

### Warranty of Path Engineering Services

Aviat Networks warrants that the installed radio communication path will conform to Customer's multipath performance reliability objectives when Aviat Networks has performed the path survey, recommended the path design, and Aviat Networks has implemented such recommendations. This warranty is for a period of 15 months from the date of the survey or one year from the date of installation of the microwave path, whichever expires first. All Aviat Networks field activities and path propagation analysis will utilize current hardware, software, engineering practices and judgment with the goal of meeting normal Path Loss, as defined in TIA/EIA Standard RS-252-A.

Aviat Networks is not responsible for paths that it does not survey, nor for changes in path design beyond those specifically allowed in the path survey report or in writing after the field survey is completed, including but not limited to:

- Any change in path design;
- Any movement in site locations;
- Any building or other structure built on-path after date of survey;
- Any disturbance of the terrain which may cause blockage or reflection;
- Any additional frequency interference source;
- Any change of available antenna mounting space on tower.

Any one of the changes listed on page one will nullify this warranty, and the Customer shall in such case bear the total cost of determining that such change was the cause.

Aviat Networks will not be responsible for degraded path performance when such degradation is due to such anomalous propagation conditions as:

- Long-term loss of fade margin due to antenna decoupling misalignment caused by widely-varying k-factor changes;
- Long-term loss of fade margin due to Atmospheric Boundary Layering ("ABL") causing wave front defocusing (beam spreading), signal entrapment (blackout fading), ducting, and other such occurrence.
- Excessive rain outage rates beyond the published crane and/or chart data used in the calculation;
- Degradation resulting from certain types of multipath interference attributed to unidentifiable off-path terrain features or structures;
- Any other technological or atmospheric condition not foreseeable through the exercise of prudent engineering knowledge and judgment.

Additionally, Aviat Networks will not be responsible for degraded path performance when:

- Non-Aviat Networks radio equipment is installed on a surveyed path;
- Aviat Networks radio equipment is not installed by Aviat Networks;
- Existing antenna and waveguide system is used without test and inspection performed by Aviat Networks.

Aviat Networks designs the microwave path based upon best engineering practices and standards common to the industry, and it selects a transmission configuration based upon the most economical method for meeting the path performance objectives. When path loss or reliability objectives are not achieved, exclusive of anomalous propagation or path changes as described above, then Customer's sole remedy, and Aviat Networks' exclusive liability in connection with path engineering, shall be that Aviat Networks will provide incremental labor and material to optimize the antenna system beyond what would have been required during initial installation.

Where anomalous propagation is suspected in an installed microwave path, Aviat Networks will work with the Customer to obtain reasonable evidence that such condition exists. The total retroactive costs for such study shall be the responsibility of the Customer with Aviat Networks providing in-office engineering support. The cost of relocating towers, antennas, passive reflectors or other measures required to remedy this type of problem shall solely be the responsibility of the Customer.

### Limitations

Except for the warranties provided in Section 3 of Exhibit A (General Conditions), and Exhibit B (Special Conditions) Sections 4, 5, 6, and 8, the foregoing warranties are in lieu of all other warranties whether oral, written, expressed, implied, or statutory. In particular, THE IMPLIED WARRANTIES OF FITNESS FOR PARTICULAR PURPOSE IS HEREBY DISCLAIMED and shall not be applicable, either from Aviat Networks or any other equipment or software manufacturer. Aviat Networks' warranty obligations and Customer's remedies thereunder are solely and exclusively as stated in this Contract. IN NO CASE SHALL AVIAT NETWORKS BE LIABLE FOR INDIRECT KINDS OF DAMAGES, INCLUDING BUT NOT LIMITED TO SPECIAL, INCIDENTAL, AND CONSEQUENTIAL DAMAGES, OR LOSS OF CAPITAL, REVENUE, OR

PROFITS. In no event shall Aviat Networks' liability to customer, or any party claiming through Customer, be in excess of the actual sales price paid by Customer for any service supplied to Customer by Aviat Networks.

Deliverables
Refer to section 2.3.3 for a full list of Aviat Networks Path Design deliverables.

# APPENDIX D: SITE ENGINEERING

### Microwave Site Design

The Aviat Implementation Engineer will perform field site surveys to verify that telecommunications equipment can be installed, powered and commissioned effectively at each site, antennas, waveguide and accessories can be connected to radios (towers, shelters and buildings), and customer traffic, alarms and dehydrator lines are fully engineered.

### Microwave Site Survey

The microwave site survey is intended to gather data and identify the gap(s) between the site's present state and the site readiness for equipment installation, document any visible issue with the existing infrastructure / equipment that would pose a quality or safety issue during installation, gather environmental data and requirements for Telecommunication Equipment to function properly (including but not limited to HVAC, Temperature, humidity, the general state of the facility as well as seismic evaluation/compliance if required), record flooring, ceiling, racking data and requirements to mount new equipment (including floor plans, relay rack profiles, aisle numbering plans, and ceiling hangers, ladders, and anchor materials required to meet quality and safety standards.

The survey is also intended to record AC, DC, grounding (as is and to be), and breaker assignments and ensure power and grounding standards are met, identify demarcation types and location between new and existing equipment as well as the type of termination and the details required to terminate to the customer provided equipment, identify existing radio equipment (fixed, mobile) as well as their operating frequencies, record existing waveguide, dehydrator component and their associated cabling, identify all required or existing tower structures, mounting structures, antenna mounting types, waveguide ladder systems, entryway into telecom shelters and energy sources.

The results of the survey will be published and released in a site survey report and will be utilized by Aviat Networks for preparation of final power calculations, waveguide requirements, field OEM requirements, installation specifications, field test plans and traffic cutover plans. In the event where Aviat Networks will not be performing the site survey, it will be up to COUNTY OF SAN LUIS OBISPO to provide all the documents needed to Aviat Networks to complete the site engineering and final system design. Aviat Networks will not be held accountable for validating the accuracy of the information provided by COUNTY OF SAN LUIS OBISPO and assumes no responsibility in any inaccuracies of any part of the site engineering and microwave site design when such design is based on the information provided by COUNTY OF SAN LUIS OBISPO or any contact affiliated with COUNTY OF SAN LUIS OBISPO. Any corrective action required as a result of this, will be billed to COUNTY OF SAN LUIS OBISPO as a billable change order.

### Site Access

Access to work sites will be made available by COUNTY OF SAN LUIS OBISPO for a minimum of 8 hours per day, 5 days per week or per the agreed schedule in the project plan. All roads leading to work sites shall not require more than a 2-wheel drive vehicle unless stated otherwise and agreed to by both COUNTY OF SAN LUIS OBISPO and Aviat Networks. Any delays or additional cost caused by poor road conditions or site access issues not discussed prior to the start of the surveys will be billed to COUNTY OF SAN LUIS OBISPO as a billable change order and could have a negative impact on the project completion schedule.

### Deliverables

Refer to section 2.4.3 for a full list of Aviat Networks Site Design deliverables.

## APPENDIX E: INSTALLATION, INTEGRATION & TESTING

The installation, integration and testing services include design-supported methodologies, product expertise, and field-proven processes to help ensure a quality installation and testing of critical system paths and hardware so that the network performs according to its design. Aviat Networks will designate a primary point of contact to answer any COUNTY OF SAN LUIS OBISPO questions, provide guidance, and address issues specific to this service.

The quotation and SOW is based on an Aviat Networks standard installation schedule of 10 hour days, 6 days per week. Aviat Networks will adjust the SOW and quote for work week schedules outside of Aviat Networks' standard. No consideration for installation work performed during maintenance windows is included in the SOW unless specifically identified. All work will be done in accordance with Aviat Networks' Best Practices Guide.

Scope
Delivery of this service will utilize the design documentation developed as part of the Planning and Design phase. Field crews will utilize this documentation to:

- Install antenna systems
- Install transmission lines – at sites where existing transmission line cannot be reused.
- Install indoor microwave equipment, racks and components
- Perform Antenna alignment for newly installed antennas
- Perform system integration
- Perform system testing

System Implementation is predicated upon completion of civil construction / complete site readiness. Antenna, waveguide and equipment installation activities will be performed at the same time on a per-site basis. As part of the delivery of this service, Aviat Networks may choose to integrate equipment at the manufacturer's location to minimize onsite installation time and provide a common point for quality assurance inspections. If staging areas are utilized as part of the project, equipment and materials will be delivered from these facilities to site by the installation crews. ***It is recommended that COUNTY OF SAN LUIS OBISPO provide maintenance technicians during any service affecting work.***

The successful completion of all installation, integration and testing services are based on uninterrupted, contiguous-site installation and testing. Additional mobilizations are not included in the pricing and project schedule. If installation is delayed due to inclement weather, inaccessible sites(s), incomplete site preparation or construction, the following charges may apply and will be billed to COUNTY OF SAN LUIS OBISPO as a billable change order:

- Standby time for antenna installation teams will be charged at a rate of $1558 per person per day.
- Standby time for all other service teams will be charged at a rate of $1200 per person per day.
- If re mobilization of the installation crew is necessary, then a two-week advance notice is required.
- Re mobilization will be billed on a time-and-expenses basis.
- Service costing assumes use of 4-wheel drive vehicles for all project related vehicles additional requirement (ATV) may drive additional service costs.
- If the field crew(s) is/are required to work out of contiguous sequence due to conditions beyond the control of Aviat Networks, a charge equal to one day for each crew person will be assessed to the Customer for each occurrence.

Site Access
Access to work sites will be made available by COUNTY OF SAN LUIS OBISPO for a minimum of 10 hours per day, 6 days per week or per the agreed schedule in the project plan. All roads leading to work sites shall not require more than a 2-wheel drive vehicle unless stated otherwise and agreed to by both COUNTY OF SAN LUIS OBISPO and Aviat Networks. Any delays or additional cost caused by poor road conditions or site access issues not discussed prior to the start of the installation, integration or testing services will be billed to COUNTY OF SAN LUIS OBISPO as a billable change order and could have a negative impact on the project completion schedule.

Site Services
All work permits, public agency approvals, leasing agreements, zoning permits or inspections required at each site, soil analysis, foundation design, civil documentation for existing shelters or towers, architectural blueprints, plot plans, structural analysis for new or existing antenna systems, location of all site boundaries and features (including locating and marking tower location, true North, property boundaries, paved areas, landscaping, fences and any other underground/overhead obstruction which could interfere with construction and access), and/or other related documentation for this project will be obtained, conducted, completed and made available to all parties involved prior to the start of any installation, integration or testing services. All other construction and installation work will be conducted in accordance with local city, county, state, and government laws and regulations.

All equipment including radios, antennas and racks will be stored in a secure location at the site or at a designated location. COUNTY OF SAN LUIS OBISPO will assume responsibility for the loss of any equipment, tools or personal belongings from any secured location provided or monitored by COUNTY OF SAN LUIS OBISPO.

Installation
COUNTY OF SAN LUIS OBISPO shall verify that each site is ready for installation and commissioning activities, including COUNTY OF SAN LUIS OBISPO supplied equipment installation and power up prior to the start of any such services and will take responsibility of any delay caused or cost incurred due to sites not being ready, as stated in the project scope of this document.

An inspection will be performed with COUNTY OF SAN LUIS OBISPO after completing the physical installation. Workmanship deficiencies will be noted on a punch list for immediate correction. This inspection is not intended to verify operation of the new system or suitability of components, but rather to inventory and document that all equipment and materials from the schedule of values are installed to acceptable workmanship quality standards. Site drawings will be reviewed and red-lined to reflect the installed condition.

Testing
Test crews will begin work immediately after installation is complete. Testing, based on a standard set of Aviat Network test cases, will be performed on all provided equipment to confirm configuration, operation and manufacturer's specifications. Test data will be recorded on field test sheets, by technical field personnel who will also be responsible for documenting test results and any changes made to the design documentation.

The test crews will be trained on the equipment and utilize state-of-the-art test equipment to perform all tests. Test equipment will have valid calibration certifications, which can be verified prior to commencing any tests. It is recommended that COUNTY OF SAN LUIS OBISPO take the opportunity to have their maintenance technicians witness/participate in field commissioning testing to gain on-the-job training and experience on the new system components.

Commissioning tests will consist of a set of standard Aviat Networks test cases and include turn-up and performance verification tests and circuit tests to verify end-to-end continuity and equipment operation as well as any other tests documented in the Field Acceptance Test Plan. The Field Acceptance Test Plan shall be approved and agreed to by Aviat Networks and COUNTY OF SAN LUIS OBISPO, including any COUNTY OF SAN LUIS OBISPO requested test, prior to test execution. Test results will be recorded on field test data sheets and submitted to COUNTY OF SAN LUIS OBISPO. Refer to the Field Acceptance Test document for details on the test to be performed.

System tests will be performed on a logical section/loop of the system. The system tests will be designed to demonstrate performance and functionality of system features as-well as end-to-end operation of individual circuits/services. System Test results will establish benchmark system performance and operation prior to cut-over and acceptance. The test data sheets prepared during commissioning and system testing will become the base line document for maintenance and performance evaluation of the system over an extended period of time. COUNTY OF SAN LUIS OBISPO will be required to review the commissioning and acceptance testing/results and red-lined drawings and provide approval/acceptance of the data and authorization to proceed with cut-over activities.

Traffic Cut-over
Cut-over activities are anticipated to occur as Antenna and Radio sub-systems are implemented. The commissions and system-level test activities verify that the new system is ready to accept traffic. Preparation, Planning, Logistics and Technical support are the critical elements in transferring existing services to a new system. COUNTY OF SAN LUIS OBISPO infrastructure is utilized for control of mission critical infrastructure; therefore, processes must also be put in place to minimize interruptions as well as to restore the original service in the event of unforeseen situations.

Safety
The health and safety of all individuals, whether in the field, plant or office, takes precedence over all other concerns. Management's goal is to prevent accidents and to reduce personal injury and occupational illness and comply with all safety and health standards. A code of safe conduct is important to the efficiency of operations. Safety is everyone's responsibility. No individual is required or expected to be in such a rush that safety is neglected. The personal safety and health of each individual is of primary importance. The prevention of occupational-induced injuries and illnesses is of such consequence that it will be given priority mechanical over operation productivity whenever necessary. To the greatest degree possible, COUNTY OF SAN LUIS OBISPO will provide all and physical safeguards required for personal safety and health in keeping with the highest standards. Aviat Networks require a written report for all accidents and incidents, no matter how small.

Safety and first aid material and supplies will be provided to all Aviat Network construction/installation personnel or affiliated contractors or made available at each site for the duration of this project. All safety and first aid material will be stocked at acceptable levels and will have not exceeded the expiration dates where applicable. COUNTY OF SAN LUIS OBISPO will be responsible for providing Aviat Networks with the location and phone numbers of all local emergency agencies.

Deliverables
Refer to section 2.5.5 for a full list of Aviat Networks Installation, Integration & Testing deliverables.

## APPENDIX F: ASSUMPTIONS & EXCLUSIONS

The following assumptions will govern the delivery of the Project Management service:

- This SOW and associated pricing is based on the system as described in the Aviat Networks 'proposal and on COUNTY OF SAN LUIS OBISPO completing all items set forth in this SOW as being COUNTY OF SAN LUIS OBISPO responsibility to ensure site readiness.
- Service pricing includes labor and field living expenses.
- Any inaccuracies in FCC data may drive additional services costs during field implementation. In addition, any other troubleshooting tasks related to frequency interference issues that are not directly attributable to Aviat Networks are subject to additional service fees at daily/hourly rates define in this SOW.
- All equipment interconnects or termination points, unless specified otherwise, are estimated to be fifty (50) feet. This project does not include any cabling between buildings, rooms or floors, unless specifically identified in this SOW.
- Customer provided construction drawings will have sufficient details for Aviat engineering to order antenna mounting or any other related material required. Any re-engineering to provide correct mounts or material required by Aviat Networks may increase cost to COUNTY OF SAN LUIS OBISPO.

Unless negotiated otherwise, the services described in this SOW will exclude:

- Responsibility for managing COUNTY OF SAN LUIS OBISPO project responsibilities and deliverables.
- This SOW is a listing of roles and responsibilities to be provided by Aviat Networks. Aviat Networks shall not be responsible for the condition of existing equipment or the deficiencies of non-Aviat Networks provided labor. Only the labor addressed in this SOW will be provided by Aviat Networks.
- On-site technicians will decline any COUNTY OF SAN LUIS OBISPO request for support or work outside the scope of work defined and agreed upon in the service contract unless it is addressed in the form of a change order.
- Aviat Networks proprietary documentation used by service delivery teams to perform this service is not available to COUNTY OF SAN LUIS OBISPO.
- Provision of proprietary information on exact methods, procedures and tools to perform this service.
- Any and all items that are not specifically described within the service proposal as being provided by or the responsibility of Aviat Networks.
- Standard services pricing excludes mobilization and demobilization charges (including airfare).
- Aviat Networks will not be responsible for the resolution of other vendor issues affecting the completion of the cutover. Aviat Networks can provide guidance and support to COUNTY OF SAN LUIS OBISPO in resolving interoperability issues, where applicable.
- Repair of equipment not in the Engineering Drawings. Equipment requiring repair that is not included in the Engineering Drawings but is still under warranty must follow COUNTY OF SAN LUIS OBISPO's normal repair and return procedures.
- Equipment removal that is not associated with the job order for this service
- Additions or changes to ironwork, cable racks, or fiber ducts are not included and can be quoted separately after site visit information is collected.

## APPENDIX G: FIELD CHANGE ORDER PROCEDURE

Any change to the proposed system configuration, the number of sites, type of equipment, type of services or project responsibilities, or any other change as noted in this SOW to be performed by Aviat Networks will be considered as a change in scope and will be subject to the following process:

- The Customer or Aviat Networks identifies a change of project Scope of Work.
- Aviat Networks Program Manager and/or Project Engineer will submit a proposed Field Change Order Authorization and/or a Contract Amendment containing documentation of the proposed additional activity and the additional cost. (See example Appendix A)
- An authorized Customer representative must review and approve the Field Change Order Authorization and/or the Contract Amendment in writing prior to changes to the scope of work being started.

5200 Great America Parkway
Santa Clara, CA 95054
408-567-7000

# CHANGE ORDER FORM

**COUNTY OF SAN LUIS OBISPO**
**MICROWAVE HARDWARE AND REPLACEMENT SERVICES**
**NA121130-61190**

This amendment hereby modified and amends the contract/purchase order ("Agreement") between Aviat Networks, COUNTY OF SAN LUIS OBISPO, also referred to as "Parties" as follows:

These products <and/or> services are hereby <added/deleted> to the Agreement between the Parties at the specified prices and all other terms and conditions remain unchanged.

| | | | |
|---|---|---|---|
| Customer: | COUNTY OF SAN LUIS OBISPO | Contract #: | |
| Phone: | | Contract Date: | |
| Fax: | | Change Order #: | |
| Email: | | Aviat SO #: | |

| Line # | Description | QTY +/(-) | Unit Price | Ext Price +/(-) |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| | | | | |
| | | | | |

| | |
|---|---|
| Subtotal Booking | $ |
| Tax (as applicable) | $ |
| Freight | $ |
| Other | $ |
| **TOTAL THIS CHANGE** | **$** |

| **Aviat Networks Authorized Representative** | | **COUNTY OF SAN LUIS OBISPO Authorized Representative** | |
|---|---|---|---|
| Approved By: | | Approved By: | |
| Print Name: | | Print Name: | |
| Title: | | Title: | |
| Date: | | Date: | |

# STATEMENT OF WORK SIGN-OFF

**COUNTY OF SAN LUIS OBISPO**
**MICROWAVE HARDWARE AND REPLACEMENT SERVICES**
**NA121130-61190**

Aviat Networks and COUNTY OF SAN LUIS OBISPO agree that this document will govern the scope, roles, and responsibilities associated with the delivery of this project.

The parties also agree that material changes to the project scope or deviations from the assignment of responsibilities between Aviat Networks and COUNTY OF SAN LUIS OBISPO have the potential to drive Job Change Orders and/or revisions to the project schedule.

| **Aviat Networks Authorized Representative** | | **COUNTY OF SAN LUIS OBISPO Authorized Representative** | |
|---|---|---|---|
| Approved By: | | Approved By: | |
| Print Name: | | Print Name: | |
| Title: | | Title: | |
| Date: | | Date: | |

## PROJECT COMPLETION SIGN-OFF

Complete one page for every site
**COUNTY OF SAN LUIS OBISPO**
**MICROWAVE HARDWARE AND REPLACEMENT SERVICES**
**NA121130-61190**
**<Site Name>**

| **Equipment:** |
|---|
| |
| |
| |
| |
| |
| |

The Aviat Networks supplied microwave equipment has been completely installed and tested and has been accepted for traffic use with the following exceptions:

| **Exceptions (use additional sheets if required):** |
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Please call our Customer Service hotline at 1-800-227-8332 for service, equipment repair, training or miscellaneous sales or visit our Customer Service Web at http://www.aviatnetworks.com

| **Aviat Networks Authorized Representative** | | **COUNTY OF SAN LUIS OBISPO Authorized Representative** | |
|---|---|---|---|
| Approved By: | | Approved By: | |
| Print Name: | | Print Name: | |
| Title: | | Title: | |
| Date: | | Date: | |

EXHIBIT D

COMPENSATION PLAN

1. **Contract Price**. Contractor shall complete the Project including providing all Software, Hardware, engineering services and Deliverables required by this Contract, for the fixed maximum price of $1,076,072 (the "Contract Price). County shall have no obligation to pay more than the Contract Price described in this exhibit, and Contractor will be responsible for all costs incurred in connection with the Project. Notwithstanding anything to the contrary set forth herein, County shall have no obligation to make the final payment hereunder until all training, Documentation and services required of Contractor shall have been performed, delivered and accepted by County.

2. **Payment Terms.** No payment shall be required hereunder for the accomplishment of the Deliverables set forth in Exhibit C unless and until the County shall have accepted such Deliverable which shall not be unreasonably withheld. Payments shall be made according to the schedule provided in this Exhibit D.

   The Contract Price shall be earned and invoiced in the following Milestones:

   **a)** Fifteen (15) percent of total services price, $51,565.60 upon County's receipt and acceptance of the initial Implementation Plan.

   **b)** Twenty Five (25) percent of total services price, $101,278 upon Contractor's completion of and County's acceptance of Detailed Design Review.

   **c)** One Hundred (100) percent of total equipment price (Hardware and Software), $670,966 upon delivery to and acceptance by County.

   **d)** Thirty (30) percent of total services price, $126,131.20 upon System Acceptance.

   **e)** Thirty (30) percent of total services price, $126,131.20 upon Final Project Acceptance.

3. **Invoices**. Contractor shall issue County invoices in accordance with the Milestones set forth above and non-disputed invoices shall be due and payable net (30) days from invoice date.

4. **Freight, Title and Risk of Loss.** All freight charges, transportation costs and insurance (estimated to be $24,992) will be paid by the County. Title to the Equipment shall pass to County upon delivery. Risk of loss shall pass to County upon delivery.

# EXHIBIT E
# EQUIPMENT LIST

| ITEM | EQUIPMENT LIST DESCRIPTION | PRODUCT CODE PART NUMBER | UNIT PRICE | SYSTEM QTY | SYSTEM PRICE |
|---|---|---|---|---|---|
| 1.00 | **Eclipse products** | | | | |
| 1.01 | | | | | |
| 1.02 | IRU600 RFSEC ASSY MHSB RX UNEQUAL SPLIT, 2RU, U6 GHZ | EV106-MU-MU-300 | $11,692 | 14 | $163,688 |
| 1.03 | IRU600 RFSEC ASSY MHSB/SD TX SWITCH, 2RU, U6 GHZ | EV107-MU-MU-300 | $12,217 | 8 | $97,736 |
| | IRU600 RFSEC ASSY SD SPLIT TX, 2RU, L6 GHZ | EV108-ML-ML-300-Z | $12,892 | 2 | $25,784 |
| | **High Power Option (OPTIONS-Not included in total)** | | | | |
| 1.04 | IRU600 600 High power option 1 x RFU | EZF-61 | $900 | | |
| 1.05 | IRU600 600 Nodal High power option 2 x RFU | EZF-62 | $1,800 | | |
| 1.06 | IRU600 600 Nodal High power option 3 x RFU | EZF-63 | $2,700 | | |
| 1.07 | IRU600 600 Nodal High power option 4 x RFU | EZF-64 | $3,600 | | |
| | **6GHz Extension Kit** | | | | |
| 1.08 | | 179-530135-AA101 | | | |
| 1.09 | WG EXT KIT IRU600 6GHZ SH1-PO1, 1+0/MHSB 1ANT, RPTR(MAIN) | 179-530135-AA104 | $210 | 7 | $1,470 |
| 1.10 | WG EXT KIT IRU600 6GHZ SH1-PO1, SD SP/TX | 179-530135-AA103 | $435 | 2 | $870 |
| 1.11 | WG EXT KIT IRU600 6GHZ SH1-PO1, 1+0/MHSB 2 ANT, MHSB/SD | 179-530135-BB201 | $465 | 5 | $2,325 |
| 1.12 | WG EXT KIT IRU600 6GHZ SH2-PO2, 1+0/MHSB 1ANT, RPTR(MAIN) | 179-530135-BB203 | $735 | 4 | $2,940 |
| 1.13 | WG EXT KIT IRU600 6GHZ SH2-PO2, 1+0/MHSB 2 ANT, MHSB/SD | 179-530135-CC301 | $1,275 | 3 | $3,825 |
| 1.15 | WG EXT KIT IRU600 6GHZ SH3-PO3, 1+0/MHSB 1ANT, RPTR(MAIN) | 179-530135-DD401 | $975 | 2 | $1,950 |
| | WG EXT KIT IRU600 6GHZ SH4-PO4, 1+0/MHSB 1ANT, RPTR(MAIN) | | $1,020 | 1 | $1,020 |
| | **Waveguide Bracket (Need Retofit to fit in Zone4 Rack)** | | | | |
| 1.17 | EXT BRKT KIT IRU600 2 SHELF | 179-530089-001 | $75 | 5 | $375 |
| 1.18 | EXT BRKT KIT IRU600 3 SHELF | 179-530089-002 | $135 | 1 | $135 |
| 1.19 | EXT BRKT KIT IRU600 4 SHELF | 179-530089-003 | $195 | 1 | $195 |
| 2.00 | **INUe** | | | | |
| 2.01 | | | | | |
| 2.02 | Eclipse, intelligent Node Unit 2RU, inc IDCe, Fan, NCCv2, High Output | EXX-000-203 | $960 | 18 | $17,280 |
| 2.03 | Kit BRACket 2RU | 179-530064-001 | $6 | 18 | $108 |
| 2.04 | Node Protection Card, High Output | EXS-002 | $213 | 18 | $3,834 |
| | RAC 60E, QPSK-256 QAM, High Gain, No XPIC, Acm & Sync-E | EXR-660-002 | $747 | 48 | $35,856 |

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|---|---|---|---|---|---|
| 2.05 | | EXR-600-002 | | | |
| | RAC 6XE, QPSK-256 QAM, High Gain, XPIC, ACM and SYNC-E (OPTION-Not included in total) | | $1,425 | | |
| | (OPTIONS-Not included in total) | | | | |
| 2.06 | DAC 3Xe3/DS3M, Muxed to E1/DS1 Bus | EXD-331-001 | $575 | | |
| 2.07 | | 037-579398-001 | | | |
| 2.08 | Splitter/Combiner,DS3, 2 X Slimline Bnc to Bnc Connector 515MM | 037-579246-001 | $125 | | |
| | Cable, Trib, E3/DS3, Unbalanced Slim-Line Bnc to Stnd Bnc, 2 Meters (037-579246-001V1, 1-1700143-7, 1-1869335-1) (optional) | | $15 | | |
| 2.09 | Eclipse, DAC 16xE1/DS1 V2, Protectable | EXD-161-001 | $395 | 42 | $16,590 |
| 2.10 | 2X Hdr-E50 to Y Join to 24Awg Free End 3.5M (HDR-E50MSG1) | 037-579408-003 | $81 | 42 | $3,402 |
| 2.11 | 2X Hdr-E50 to Y Join to 24Awg Free End 15.5M (HDR-E50MSG1-Y-15M)(OPTION-Not included in total) | 037-579408-015 | $104 | | |
| 2.12 | DAC Ge3 Gigabit Ethernet SWitch Card | EXD-181-002 | $1,125 | 34 | $38,250 |
| 2.13 | Gig Eth Sfp, Opt MMf 850Nm Lc 1000Base-Sx, <550M (LM28-C3S-TC-N) | 079-422662-001 | $78 | 34 | $2,652 |
| 2.14 | Cable Prot / Bridgeing Ge3, Direct Fit, 500MM | 037-579461-500 | $47 | 17 | $799 |
| 2.15 | Splitter MM Lc-Lc to Lc 10M | 037-579486-010 | $90 | 34 | $3,060 |
| 2.16 | AUX, ALARM I/O CARD | EXA-001 | $187 | 2 | $374 |
| 2.17 | Nms Cable, Rj45 to Rj45, Shielded, 2 Meters (OPTION-Not included in total) | 037-579124-002 | $4 | | |
| 2.18 | Nms Cable, Rj45 to Rj45, Shielded, 5 Meters | 037-579125-002 | $5 | 29 | $145 |
| 2.19 | Node SW License, 50 Mbps total Radio Payload Capacity | EZE-08001 | $90 | 16 | $1,440 |
| 2.21 | Node SW License, 150 Mbps total Radio Payload Capacity | EZE-08003 | $900 | 2 | $1,800 |
| | (OPTIONS-Not included in total) | | | | |
| 2.22 | LAYER 1 LINK AGGREGATION NODAL ON DAC GE / DAC GE3 | EZF-01 | $337 | | |
| 2.23 | ADAPTIVE MODULATION NODAL RAC60/6X/60E/6XE | EZF-02 | $1,125 | | |
| 2.24 | SECURE MANGEMENT, INU, inc SNMPV3 NODAL | EZF-03 | $900 | | |
| 2.25 | PAYLOAD ENCRYPTION NODAL RAC60/6X/60E/6XE | EZF-04 | $750 | | |
| 2.26 | ETHERNET OVER TDM, NTU, DS3, 16X V2 DS1 and E1 | EZF-05 | $337 | | |
| 2.27 | RADIUS CLIENT, NODAL CENTRALIZED USER ACCT MGMT | EZF-06 | $337 | | |
| 2.28 | SYNCHRONOUS ETHERNET NODAL LICENSE for DAC GE3 | EZF-09 | $300 | | |
| 2.29 | NODAL OAM/G.8032 ERP LICENSE FOR DAC GE3 | EZF-10 | $412 | | |
| 2.30 | NCM LOOP SWITCH License to support up to 50E1/63T1 TDM circuits | EZF-14 | $4,500 | | |
| 2.31 | Network Equipment Building Systems, 2RU | 179-530053-001 | $141 | | |

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|---|---|---|---|---|---|
| 2.32 | Network Equipment Building Systems, Power Filter | 179-530054-001 | $119 | | |
| 3.00 | **RACK and Accessories** | | | | |
| 3.01 | RACk Assembly 7'-6" ChatSWorth AlumINUm W/1 Breaker Panel W/O Breakers, W/10 Blank Covers (OPTION-Not included in total) | 179-530107-0114 | $1,115 | | |
| 3.02 | installation Kit, AlumINUm RACk, Concrete Floor (OPTION-Not included in total) | 179-530119-001 | $578 | | |
| 3.03 | Rack Assembly "No Rack, No Crate" W/1 Breaker Panel W/O breakers, W/10 blank covers | 179-530107-9910 | $649 | 14 | $9,086 |
| 3.04 | Circuit Breaker 3 Amp Snapak (030017750D) (OPTION-Not included in total) | PWR-000048-TRM | $15 | | |
| 3.05 | Circuit Breaker 15 Amp Snapak (030017750H) | PWR-000052-TRM | $15 | 38 | $570 |
| 3.06 | Circuit Breaker 1 Amp Snapak (030017750B) | PWR-000046-TRM | $15 | 22 | $330 |
| 4.00 | **Jackfield** | | | | |
| 4.01 | DS1 Jackfield | LOC-ELF-0000-2400 | $119 | 12 | $1,428 |
| 4.02 | Tel DSx1 Elf 8Term Mod (ELF-1008-1100) | LOC-ELF-1008-1100 | $213 | 24 | $5,112 |
| 4.03 | TEL-ELF MOD DSX-1 8 TERM RJ48 (OPTION-Not included in total) | LOC-ELF-1008-1800 | $303 | | |
| 4.04 | DSX-1, 32-TERM, FR-XC WW, R-CONN, BLK, 19", 2RU | 101-112565-002 | $1,456 | 9 | $13,104 |
| 4.05 | DSX-1, 56-TERM, W/ R-CONN, 1"X4" RINGS, BLK, 19"/23", 4RU (OPTION-Not included in total) | 101-112565-003 | $2,399 | | |
| 4.06 | CABLE ASSY, 16 PR PLUG-STUB | 087-115372-050 | $112 | 9 | $1,008 |
| 4.07 | CABLE ASSY, 16 PR RECP-STUB\|087-115373-050 | 087-115373-050 | $68 | 9 | $612 |
| 4.08 | MXLGY 50 PIN WW ADPTR (M) KIT | 098-107617-001 | $54 | 9 | $486 |
| 4.09 | MXLGY 50 PIN WW ADPTR (F) KIT | 098-107617-002 | $46 | 9 | $414 |
| 5.00 | **Provision** | | | | |
| 5.01 | Provision Windows Server, up to 1,000 Slv, Entry Level, RACk Mounted | 614-100145-001 | $5,600 | 1 | $5,600 |
| 5.02 | PROVISION ELECTRONIC SHPMENT - 50 NODES | 614-226000-002 | $14,700 | 1 | $14,700 |
| 5.03 | STANDBY SERVER - PV SOLUTION PACK - 100 NODES (option, if it is selected, extra Windows server 5.01 is also needed) (OPTION-Not included in total) | 614-625012-001 | $3,500 | | |
| 5.04 | ProVision Windows Client Laptop up to 3,500 SLV, Entry Level (OPTION-Not included in total) | 614-100170-001 | $1,330 | | |
| 5.05 | Provision Customized Development - 1 Unit (OPTION -Not included in total) Customer Provided Power Supply System) | 614-550200-001 | $7,000 | | |
| 5.06 | Provision GDS Package, Asentria Siteboss 500 Series | 614-700011-001 | $3,500 | 1 | $3,500 |
| 6.00 | **Asentria SiteBoss** | | | | |
| 6.01 | S550-6/32M/DC, S550 W/6 EXPSLT; 32MB; -48VDC; SLOTS 1-6:EMPTY (S550-6/32M/DC) | ASE-S556/3D | $2,635 | 14 | $36,890 |
| 6.02 | 64 Dry Contact Closures (high-density, includes "Y" interconnect cable, -64C) | LS(-64C) | $698 | 14 | $9,772 |

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| 6.03 | 32 Contacts, 8 Analog Voltage, 8 Relays (high-density, includes "Y" (OPTION-Not included in total) | LS(32C8V8R) | $847 | | |
| 7.00 | **Spares** | | | | |
| 7.01 | RFU, MP, IRU600, 5.8/L6 GHz, 5725-6450 MHz | ERM-U53-301 | $4,612 | 1 | $4,612 |
| 7.02 | RFU, MP, IRU600, U6 GHz, 6400-7125 MHz | ERM-U63-301 | $4,612 | 1 | $4,612 |
| 7.03 | Node Protection Card, High Output | EXS-002 | $213 | 1 | $213 |
| 7.04 | ECLIPSE, INTELLIGENT NODE UNIT 2RU, INC IDCE, FAN, NCCV2, HIGH OUTPUT | EXX-000-203 | $960 | 1 | $960 |
| 7.05 | RAC 60E, QPSK-256 QAM, High Gain, No XPIC, Acm & Sync-E | EXR-660-002 | $747 | 1 | $747 |
| 7.06 | Low Noise-Thin Fan Accessories Kit, IRU600 V2 | 179-530109-001 | $25 | 1 | $25 |
| 7.07 | SW License, DS-1, 6RAC 16X | EZE-00119 | $10 | 1 | $10 |
| 7.08 | DAC 3Xe3/DS3M, Muxed to E1/DS1 Bus | EXD-331-001 | $575 | | |
| 7.09 | Eclipse, DAC 16xE1/DS1 V2, Protectable | EXD-161-001 | $395 | 1 | $395 |
| 7.10 | DAC Ge3 Gigabit Ethernet SWitch Card | EXD-181-002 | $1,125 | 1 | $1,125 |
| 7.11 | AUX, ALARM I/O CARD | EXA-001 | $187 | 4 | $748 |
| 8.00 | **M66-Block Wall-Mount for alarms (Ship Loose)** | | | | |
| 8.01 | M66 Punch-Down BlOCk Kit | 179-530132-001 | $34 | 26 | $884 |
| 9.00 | **Dehydrators and Accessories** | | | | |
| 9.01 | Dehydrator, Low-Pressure Mem, 19in RACk Mntbl, 3.0Å¬5.0 Psig, W/Dis Alrm, 115 Vac, 50/60 Hz (MT050B-81315) | AND-MT050B-81315 | $2,947 | 5 | $14,735 |
| 9.02 | Dehydrator Wall Shelf for Mr050; Mt050; Mt300 and Pmt200 Dehydrators (AE01D-D1658-100) | AND-AE01D-D1658-100 | $164 | 5 | $820 |
| 9.03 | Distribution Manifold, 4 Port, Wall Mntbl, 0-5.0 Psig, 25 Ft of Tubing Per Port (L6600D-4) | AND-L6600D-4 | $420 | 1 | $420 |
| 10.00 | **Antenna** | | | | |
| 10.01 | Antenna, 6.425-7.125Ghz, 1.8M/6Ft, Sp, Sngl Pol, Cpr137G, Gry Mld Rad, Cat A (PAR6-65-PXA/B) | AND-PAR6-65-PXA/B | $1,755 | 12 | $21,060 |
| 10.02 | TWR LEG MOUNT/ICE SHIELD KIT, SUPPORTS UP TO 8" DIAMETER LEG & 6' ANTENNA OR SMALLER | 179-530147-001 | $1,293 | 10 | $12,930 |
| 10.03 | MICROWAVE DISH STRUT SUPPORT, 6FT PIPE (MD-SS-6R) (OPTION-Not included in total) | AND-MD-SS-6R | $287 | | |
| 11.00 | **Waveguides 6 GHz** | | | | |
| 11.01 | Elliptical Waveguide Standard, 5.925-7.125 Ghz, Black Pe Jacket, Per Foot (EW63-F) | AND-EW63-F | $6 | 911 | $5,466 |
| 11.02 | Step-Tunable Connector Transition for Ew63, Cpr137G (163SE) | AND-163SE | $190 | 20 | $3,800 |
| 11.03 | SNAP-IN HANGER KIT FOR EW63, KIT OF 10 (EWSH-63) | AND-EWSH-63 | $78 | 32 | $2,496 |
| 11.04 | KIT, WG ACCESSORIES, EW63 (5.925-7.125GHZ), SUPPORTS 100FT OF WG EA. (EW63-KIT) | AND-EW63-KIT | $339 | 12 | $4,068 |
| 11.05 | WAVEGUIDE BOOT FOR EW63, 4 IN (WGB4-63) | AND-WGB4-63 | $46 | 10 | $460 |

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| 11.06 | KIT, WG INSTALL KIT (EWG-KIT) | AND-EWG-KIT | $337 | 10 | $3,370 |
| 11.07 | Wall Feedthrough for 1/2 upto 4 Entries (204673-4) | AND-204673-4 | $102 | 3 | $306 |
| 12.00 | **Services** | | | | |
| 12.01 | Radio integration | SVCS-IN-SIPQ-RI | $12,618 | 1 | $12,618 |
| 12.02 | Vendor integration | SVCS-IN-SIPQ-VI | $11,829 | 1 | $11,829 |
| 12.03 | Customer Acceptance Testing (Option-Not included in total) | SVCS-IN-SIPQ-AT | $3,619 | | |
| 12.04 | Config Eng / DOCumentation / Drafting | SVCS-IN-SIPQ-AE | $10,353 | 1 | $10,353 |
| 12.05 | 12 Paths and 13 Site Surveys and Reports (If the path survey for the seven (7) existing hops is **NOT** required then $21,927 can be deducted from $43,955) | SVCS-PN-EN-XE | $43,955 | 1 | $43,955 |
| 12.06 | Frequency coordination and Licensing | SVCS-PN-EN-XE-LA | $14,707 | 1 | $14,707 |
| 12.07 | Network Engineering | SVCS-PN-EN-SE | $15,738 | 1 | $15,738 |
| 12.08 | Project Engineering | SVCS-IN-PM-PM | $24,055 | 1 | $24,055 |
| 12.09 | Program Management | SVCS-IN-PM-PM | $22,186 | 1 | $22,186 |
| 12.10 | Program Mgmt-FAT Attendance (Option-**NOT** included in total) | SVCS-IN-PM-PM | $5,749 | | |
| 12.11 | Field Install: General (Radios & OEM with Mobilization) | SVCS-IN-IC-FI | $80,498 | 1 | $80,498 |
| 12.12 | Field Install: General (Provision) and site alarm testing | SVCS-IN-IC-FI | $6,641 | 1 | $6,641 |
| 12.13 | Ant Syst Install: General | SVCS-IN-IC-AS | $166,446 | 1 | $166,446 |
| 12.14 | Equipment Removal | SVCS-IN-IC-FI | $25,200 | 1 | $25,200 |
| 12.15 | NI Field Acceptance Testing & Cutover | SVCS-IN-IC-FT-FA | $30,854 | 1 | $30,854 |
| | **(Standard Warranty of 36 months is included in the quote) (36 months because Aviat is installing the system)** | | | | |
| 12.16 | Provision Support, 24 Months, 21-100 Nodes, 24 X 7 | SWW-PV24G2XX2499 | $10,080 | 1 | $10,080 |
| 12.17 | **Training** | | | | |
| 12.18 | IRU600 Technical Training - Customer Site with Equipment, 3 Day, NA, 10 students max | TRN-NA-IRU-01D | $13,064 | 1 | $13,064 |
| | Provision Network Manager At Customer Site 2 Day NA, 8 students max | TRN-NA-PRO-01C | $8,880 | 1 | $8,880 |
| 12.19 | **(OPTIONs-Not included in total)** | | | | |
| 12.20 | Corrective Maintenance NA&C, 4H Response, per year, per site | SNA-CM4HL1001299 | $2,800 | | |
| 12.21 | Preventive Maintenance-NA&C, per year, per site | SNA-PM1YL1001299 | $1,400 | | |
| 12.22 | Remote Monitoring-NA&C, Set up Charges | SNA-RMXXS1XXXX99 | $7,200 | | |
| | Remote Monitoring, per year, per site | SNA-RMXXE2XX1299 | $402 | | |

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| 12.23 | Warranty Plus Iw - Na&C, Year 1 to Year 2, IRU-600, **per TR** (There are 48 TRs in the system) | SNA-BWXXA1002438 | $189 | | |
| 12.24 | IRU600 600 Radio M&O Pre-Scheduled Class, Per/Person, Date According to Web Calendar, 3 Days, NA | TRN-NA-IRU-01A | $1,440 | | |
| 12.25 | EXTENDED WARRANTY-NA&C, year 3 to year 5, IRU-600, **Per TR** | SNA-EWXXA1001238 | $786 | | |
| 12.26 | EXTENDED WARRANTY-NA&C, year 6 to year 7, IRU-600, **Per TR** | SNA-EWXXA1001238 | $603 | | |
| 12.27 | WARRANTY PLUS NW - NA&C, year 3 to year 5, IRU-600, **Per TR** | SNA-BNWXA1001238 | $1,014 | | |
| 12.28 | WARRANTY PLUS NW - NA&C, year 6 to year 7, IRU-600, **Per TR** | SNA-BNWXA1001238 | $777 | | |
| | **Grand Total (Excluding Applicable Taxes and Freight)** | | | | **$1,111,881** |
| 13.00 | **One time Management Discount** | | $115,000 | 1 | $115,000 |
| | **Grand Total After Discount (Excluding Applicable Taxes and Freight)** | | | | **$996,881** |
| 14.00 | **Estimated Tax - 7.50%** | **TAX-CSV** | $54,269 | 1 | $54,269 |
| 15.00 | **Estimated Freight - County of San Luis Obispo, CA** | **FREIGHT** | $24,922 | 1 | $24,922 |
| 16.00 | **Performance Bond, 12 months (OPTION-Not included in total)** | **SVCS-IN-PM-BN** | $10,761 | | |
| | **Grand Total (Including Applicable Tax and Freight)** | | | | **$1,076,072** |